

**COMBINED SECOND AND THIRD QUARTER  
OF FISCAL YEAR 1999 REPORT**  
(January 1999 through June 1999)

**CALIFORNIA BAY-DELTA  
ECOSYSTEM RESTORATION FUND**

June 30, 1999

Bureau of Reclamation  
United States Department of the Interior

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## **INTRODUCTION**

House Report 105-190, which accompanied House Report 2203, the FY 1998 Energy and Water Development Appropriations Bill, requires the U.S. Department of the Interior to submit a quarterly report to the Committees on Appropriations on how the funds appropriated for the California Bay-Delta Environmental Enhancement Act are being utilized. The report is to include a description of each project to be undertaken, its cost, and the agency to which funds were provided to carry out the project. The First Quarterly Report covering October 1, 1998 through December 31, 1998 has been finalized and submitted to Congress. This combined Second and Third Quarterly Report covers activities undertaken during the period of January 1, 1999, through June 30, 1999, within the Federal Bay-Delta Account funding for fiscal year (FY) 1999.

The Bureau of Reclamation, working with the other federal agencies participating in the CALFED Bay-Delta Program, prepared the following report in response to that requirement. A similar report will be prepared following the conclusion of the fourth quarter of FY 1999 and provided to the Committees and other interested parties.

## **SECOND AND THIRD QUARTER HIGHLIGHTS**

### **Select Project Accomplishments:**

- Contract negotiations were completed for 34 new projects, 14 under the U.S. Fish and Wildlife Service's Floodplain Restoration/Habitat Restoration on Existing Conservation Land Program, 11 under the Environmental Protection Agency's Watershed Restoration Planning and Implementation Program, and 9 under the Bureau of Reclamation's Bay-Delta Education Program. Project descriptions are in the Second and Third Quarter Status section of this report.
- A \$28 million project to increase fish passage and improve fish screens on Battle Creek was established under a memorandum of understanding negotiated among the Bureau of Reclamation, Pacific Gas and Electric, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and California Department of Fish and Game. The project entails 1) decommissioning and removal of five diversion dams, 2) construction of ladders and screens at three diversion dams, 3) increasing flow releases from remaining diversion dams, and 4) constructing powerhouse tailrace connectors to eliminate redundant screening and the mixing of north and south fork waters.

- The U.S. Fish and Wildlife Service acquired 2,030 acres of land, increasing the overall acreage in the San Joaquin National Wildlife Refuge. The Service is developing plans to preserve and restore these lands.
- The Bureau of Reclamation awarded a \$860,000 contract to the Anderson-Cottonwood Irrigation District to prepare construction plans and specifications for improving fish screens and ladders on the Sacramento River and to develop a monitoring plan for measuring the success of the project. This is Phase II of a three-phase project with an overall CALFED funding commitment of \$6.4 million.
- The U.S. Environmental Protection Agency released its final report on the Regional Wetlands Goals Project. The report "Baylands Ecosystem Habitat Goals: A Report of Habitat Recommendations" received good media coverage and has been widely distributed.

**FY 1999 Proposal Solicitation and Project Selection:** CALFED Program Staff, in coordination with participating CALFED agencies, issued a "Proposal Solicitation Package (PSP) for Ecosystem Restoration Projects and Program" in February, 1999. Proposals were requested to be submitted by April 16, 1999 from private and public entities interested in ecosystem restoration in the following topic areas and focus areas: Fish Passage / Fish Screens; Habitat Restoration: Channels, Floodplains, and Marshes; Local Watershed Stewardship; Water Quality; Introduced Species; Improved Fish Management and Hatchery Operations; and, Environmental Education.

Proposals numbering 226 and valued at \$264 million were submitted. The available funding for ecosystem restoration projects in 1999 is \$18.7 million. The CALFED Integration Panel recommended funding 34 proposals. The CALFED Ecosystem Roundtable, the Bay-Delta Advisory Committee, and the CALFED Policy Group recommended funding 33 of the 34 proposals. Of the 33 proposals, 21 have been identified for funding with 1999 Bay-Delta Act funds. A letter is being submitted to the Secretary of the Interior for funding approval for these programs and projects.

Planning and priority setting has begun for the FY 2000 funds that have been requested.

**Draft Environmental Impact Report/Environmental Impact Statement Status:** On June 25, 1999, CALFED program staff issued the draft "Programmatic Environmental Impact Statement/Environmental Impact Report," starting a 90-day public comment period. Completion of the comment period and incorporation of the comments into the document will culminate with the Federal Record of Decision and the State Certification of the Final Programmatic EIS/EIR, expected to be completed in June 2000.

**CALIFORNIA BAY-DELTA ENVIRONMENTAL ENHANCEMENT ACT**  
**STATUS OF FUNDS AS OF JUNE 30, 1999**  
(In \$1,000)

| <b>Program Area</b>  | <b>Allocated</b>  | <b>Obligated</b> | <b>Expended</b>  |
|--|-------------------|------------------|------------------|
| Fish Screen Improvement                                    | 2,539             | 2,539            | 138              |
| Fish Passage Improvements                                  | 42,353            | 4,003            | 655              |
| Habitat Restoration in Floodplains and Marshes             | 41,652            | 32,842           | 8,190            |
| River Channel Changes                                      | 14,884            | 9,794            | 243              |
| Improved Instream Flows                                    | 14,500            | 7,700            | 0                |
| Water Quality and Temperature Improvement                  | 8,803             | 5,043            | 903              |
| Introduced and Undesirable Species Control                 | 1,250             | 1,250            | 0                |
| Improved Fish Management and Hatchery Operations           | 625               | 625              | 35               |
| Watershed Management                                       | 4,198             | 2,253            | 141              |
| Monitoring, Permit Coordination, and Other Special Support | 9,556             | 5,800            | 1,949            |
| Miscellaneous Expenses/Administration                      | 9,469             | 573              | 385              |
| Balance Remaining for Additional Program/Projects          | 10,171            | 0                | 0                |
| <b>Total</b>   | <b>\$ 160,000</b> | <b>\$ 72,422</b> | <b>\$ 12,639</b> |



## COMBINED SECOND AND THIRD QUARTER'S STATUS FOR THE FEDERAL BAY-DELTA ACCOUNT

This section provides a description of each of the programs and projects that has been funded or recommended for funding from the Federal Bay-Delta account, as well as a summary of accomplishments and obligations during the second and third quarters of FY 1999. All projects or programs listed here have been reviewed and recommended through the CALFED process, which includes review and comment by the Ecosystem Roundtable, Bay Delta Advisory Council, and the CALFED Policy Group, with final authorization provided through the Department of the Interior. A summary table showing the status of funds for each project and program as of June 30, 1999, is provided as Appendix A. Appendix B consists of a map and legend for projects funded by the California Bay-Delta Environmental Enhancement Act. Appendix C consists of a map, legend, and schedule of CALFED projects and sources of funds.

### **Fish Screen Improvements:**

|   |                    |
|---|--------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$2,539,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$2,539,000</b> |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$138,392</b>   |

1) **Project Title:** Woodbridge Fish Screen and Passage

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,575,000 |
| Funds Obligated Through June 30, 1999: | \$1,575,000 |
| Funds Expended Through June 30, 1999:  | \$124,581   |

**Funding provided to:** Bureau of Reclamation contract signed with the Woodbridge Irrigation District on June 30, 1998

**Project Description:** The primary goals for this project on the Lower Mokelumne River are to implement key elements of existing resource management plans of CALFED, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game to substantially increase fall-run chinook salmon and steelhead populations, enhance critical and limiting aquatic habitats, and restore riparian ecosystem integrity and diversity. Three specific tasks will be funded through the Bay-Delta Act appropriation: Task One involves development of NEPA/CEQA documentation and related permitting for fish passage improvements (alternatives include building a new fish ladder, modifying the dam, and replacing the dam) at Woodbridge Dam; Task Two involves the development of complete and final designs for the fish passage improvements at Woodbridge Dam; while Task Three involves NEPA/CEQA documentation and permitting for the Woodbridge Irrigation and the North San Joaquin Water Conservation Districts' fish screen improvements. The Bureau of Reclamation will work in coordination with the

Woodbridge Irrigation District and the City of Lodi to accomplish this project. Actual construction of the fish passage and fish screen improvements are not included as part of this project but could be included as a future project in CALFED proposal solicitation packages.

Current Contractual Project Completion Date: December 31, 1999

**Second and Third Quarter Accomplishments:**

The draft EIS/EIR report has been completed, comments have been received, and a final EIS/EIR is scheduled to be released in early July 1999. Five of the 14 alternatives considered in the Preliminary Alternatives Assessment Report were analyzed in detail. Completed engineering work includes soil and foundation drilling surveys, aerial mapping, and fishway design reviews. A fish ladder design group consisting of the National Marine Fisheries Service, California Department of Fish and Game, Bureau of Reclamation, East Bay Municipal Utility District, and U.S. Fish and Wildlife Service has been established to consider design alternatives.

2) **Project Title:** Small Diversion Fish Screens Program

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$900,000 |
| Funds Obligated Through June 30, 1999: | \$900,000 |
| Funds Expended Through June 30, 1999:  | \$0       |

**Funding provided through:** Natural Resource Conservation Service on February 24, 1999

**Project Description:** The Natural Resource Conservation Service (NRCS) oversees an existing program to promote the installation and use of fish screens on small irrigation diversions. This cooperative effort involves local landowners, NRCS, Farm Services Agency, the Family Water Alliance, California Department of Fish and Game, National Marine Fisheries Service, and National Fish and Wildlife Foundation. The purpose of this program is to allow expansion of this NRCS program with additional funding from the Bay-Delta Act appropriation. Expansion of the program will allow NRCS to provide greater Central Valley area coverage; increase the number of landowners receiving technical and financial assistance for fish screen installation; provide additional assistance to landowners for meeting NEPA/CEQA requirements; increase information, education, and outreach activities in support of the program; and coordinate project activities with the CALFED program.

Expected Project Completion Date: September 30, 2001

**Second and Third Quarter Accomplishments:**

The NRCS has initiated information and education activities and the landowner assistance function of the program through the Family Water Alliance. Emphasis has been on direct assistance to landowners planning fall 1999 fish screen installations. Thus far, three sites have been identified and selected for fall 1999 small diversion fish screens.

NEPA documentation for the fall 1999 actions is 85 percent complete, and Section 7 Endangered Species Act (ESA) consultations with the National Marine Fisheries Service have been initiated. Currently, NRCS is providing engineering assistance to complete designs and initiate contracts for the fall 1999 projects.

3) **Project Title:** Richter Brothers Anadromous Fish Screen, Phase I

|  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$49,000 |
| Funds Obligated Through June 30, 1999: | \$49,000 |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** Bureau of Reclamation contract signed with Richter Brothers on June 12, 1998

**Project Description:** The Richter Brothers operate an unscreened 25-cubic-foot per second diversion on the Sacramento River near Knights Landing. This project includes evaluating screening alternatives, completing environmental documentation, obtaining permits, and preparing design plans for installing a fish screen on this diversion. The Bureau of Reclamation will coordinate with the Richter Brothers to accomplish this project.

Expected Project Completion Date: January 31, 1999

**Second and Third Quarter Accomplishments:**

The feasibility investigation has been completed and a preferred project selected for screening the diversion. The feasibility evaluation, environmental assessment/initial study have been compiled, and the draft reports will be submitted to the Bureau of Reclamation early in the next quarter. Information in this document will be used to prepare a proposal for Phase II construction.

4) **Project Title:** Boeger Family Farms Fish Screen, Phase I

|  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$15,000 |
| Funds Obligated Through June 30, 1999: | \$15,000 |
| Funds Expended Through June 30, 1999:  | \$13,811 |

**Funding provided to:** Bureau of Reclamation contract signed with Boeger Family Farms on August 12, 1998

**Project Description:** Boeger Family Farms proposes to install fish screens on its existing slant pump in the Sacramento River near Colusa. This Phase I work involves only the technical and biological studies of the project to determine whether construction is feasible. The fish screen would reduce entrainment of priority species at the Boeger Family Farms pump. Priority species include steelhead and various chinook salmon runs (winter-run, spring-run, and late-fall run).

Project Completed: April 30, 1999

**Second and Third Quarter Accomplishments:**

Draft preliminary CEQA document is complete. The preliminary CEQA document will be used as a basis for complete NEPA/CEQA documentation in Phase II. The draft feasibility report was completed as of February 1, 1999. Final draft will be completed during the next quarter after comments have been incorporated..

**Fish Passage Improvements:**

|   |                     |
|---|---------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$42,353,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$4,002,621</b>  |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$654,795</b>    |

|                          |  |             |
|--------------------------|--|-------------|
| 1) <b>Program Title:</b> | Fish Passage Program                   |             |
|                          | CALFED Recommended level of funding:   | \$8,000,000 |
|                          | Funds Obligated Through June 30, 1999: | \$3,481,317 |
|                          | Funds Expended Through June 30, 1999:  | \$136,491   |

**Funding provided to:** Bureau of Reclamation

**Program Description:** This program will identify and implement additional fish passage projects at locations such as McCormick-Saeltzer Dam on Clear Creek and Coleman National Fish Hatchery on Battle Creek. The Bureau of Reclamation will coordinate with CALFED staff, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and other interested agencies or private entities to meet the goals of this program.

|                  |  |             |
|------------------|--|-------------|
| A) <b>Title:</b> | Fish Passage Projects under Solicitation |             |
|                  | CALFED Recommended level of funding:     | \$5,912,000 |
|                  | Funds Obligated Through June 30, 1999:   | \$1,393,317 |
|                  | Funds Expended Through June 30, 1999:    | \$125,803   |

**Description:** In May 1998, CALFED issued a Proposal Solicitation Package requesting proposals to assess fish passage problems and associated concerns regarding migration delays, stranding, and straying and to identify solutions. The assessment of problems and the identification of solutions can be accomplished through cooperative efforts to conduct the assessments necessary to identify small diversion dams that are appropriate for removal or consolidation and small diversion dams that need to be replaced or modified with structures such as fish ladders, ramped approaches, and weirs. Cooperative efforts can include developing expert work groups to work with local programs. Proposals can

address the entire Bay-Delta watershed or can concentrate on smaller areas within the geographic area of consideration.

**Second and Third Quarter Accomplishments:**

One contract was awarded, and six contracts remain to be awarded under this solicitation. Contract negotiations with project proponents are summarized in the following table<sup>1</sup>:

| <b>Project</b>   | <b>Recommended Funding Level</b> | <b>Funding Recipient (Project proponent)</b> |
|--|----------------------------------|--|
| Anadromous Fish Passage at Clough Dam on Mill Creek                                  | \$1,280,000                      | California Department of Water Resources     |
| Steelhead and Chinook Salmon Fish Passage Barrier Remediation on the Guadalupe River | 178,200                          | The Natural Heritage Institute               |
| Boeger Family Farm Fish Screen, Phase III: Construction                              | 139,500                          | Boeger Family Farms                          |
| Hastings Tract Fish Screen, Phase II: Construction                                   | 271,250                          | Hastings Island Land Company                 |
| City of Sacramento Fish Screen Replacement Project, Phase II                         | 654,500                          | City of Sacramento                           |
| American Basin Fish Screen and Habitat Improvement Project                           | 200,000                          | Natomas Mutual Water Company                 |
| <b>TOTAL PENDING AGREEMENT</b>   | <b>\$2,723,450</b>               |  |

- 1) **Project Title:** Fish Passage Improvement Project at the Red Bluff Diversion Dam
- |  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$340,600 |
| Funds Obligated Through June 30, 1999: | \$340,600 |
| Funds Expended Through June 30, 1999:  | \$0       |

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<sup>1</sup> Upon completion of the agreement negotiations, each project will be listed in the Quarterly Report with specific project description, completion data, and accomplishments.

**Funding Provided to:** Bureau of Reclamation contract signed with Tehama-Colusa Canal Authority on March 8, 1999

**Project Description:** The Tehama-Colusa Canal Authority (TCCA) diverts up to 2,600 cubic-feet-per-second (cfs) of its allocated Sacramento River water into the canals at the Red Bluff Diversion Dam. However, operations at the diversion works are permitted only from May 15 to September 15 of each year. Water supplies available to TCCA during other times of the year are not always reliable, particularly during dry years, and the Red Bluff Diversion Dam blocks anadromous fish migration when the gates are down. This project will compile and evaluate data to document the current river and diversion dam conditions, identify potential environmental issues, develop preliminary concepts for fish screens, intake facilities, and delivery conveyance systems, and define the least cost, technically superior intake and delivery system that best satisfies environmental and other needs. Included in this project will be the development of construction and annual operation and maintenance estimates. NEPA/CEQA documentation and permitting, along with actual construction are not included at this time.

Expected Project Completion Date: December 31, 1999

**Second and Third Quarter Accomplishments:** A reconnaissance level field study has been completed, and a draft technical memorandum on the combined results of the map and field study has been completed and presented at a June 17, 1999, workshop.

- 2) **Project Title:** Modifications of Existing Fish Ladders at Granlee Diversion Dam and the Retrofit of Three Summer Dams with Low-Flow Passage Structures (A.K.A.: Cosumnes River Salmonid Barrier Program)

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$188,255 |
| Funds Obligated Through June 30, 1999: | \$188,255 |
| Funds Expended Through June 30, 1999:  | \$0       |

**Funding Provided to:** Bureau of Reclamation contract signed with Fisheries Foundation of California on March 11, 1999

**Project Description:** The Cosumnes River watershed has great potential for restoration as spawning and juvenile rearing habitat for both chinook salmon and steelhead. The project represents an efficient and important step towards restoring the Cosumnes River's salmon population by addressing four fish passage barriers in the lower 34 miles of the river. Improvements to these barriers will make approximately 7.2 miles of spawning habitat upstream of the Grandee Diversion

Dam accessible to fall-run chinook salmon and steelhead. The project consists of modifications to the two fish ladders at Grandee Diversion Dam to meet current California Department of Fish and Game hydraulic criteria for fish passage; construction of a flow barrier on the left bank dam to eliminate misdirected fish attraction flows; and construction of weirs or channels with flashboards to increase successful fish passage at three summer dams that exist in the lower Consumes River. After completion of these structures, a project monitoring program, in cooperation with the California Department of Fish and Game's stream development program and with review and approval by CALFED, will be implemented to document the project's benefits. This project's total cost is estimated at \$376,510 of which 50 percent of the project (\$188,255) is being funded through the Bay-Delta Act appropriation.

Expected Project Completion Date: December 31, 2002

**Second and Third Quarter Accomplishments:** Contract awarded March 11, 1999

All Federal, State, and local permits have been applied for and are currently under review. Final design drafts have been submitted pending final design specifications due in August 1999. Engineering plan development will commence with issuance of final design specifications. Instream activity cannot commence until the river is at lowest level.

- 3) **Project Title:** Anderson-Cottonwood Irrigation District  
Fish Passage and Fish Screen Improvement,  
Phase II

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$860,000 |
| Funds Obligated Through June 30, 1999: | \$860,000 |
| Funds Expended Through June 30, 1999:  | \$117,833 |

For funding, project description, and accomplishment information, please see items 3 and 4 which follow in this topic area.

The remaining \$1,799,695 in funding for Fish Passage Improvements was included in the February 1999 CALFED Public Solicitation Process.

- B) **Project Title:** Stanislaus River Channel Restoration

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,038,000 |
| Funds Obligated Through June 30, 1999: | \$1,038,000 |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding Provided to:** U.S. Fish and Wildlife Service on September 13, 1998

**Project Description:** The primary fishery objective of this project is to remove salmon predator habitat by filling a broad (10.65 acres), relatively shallow (3-to-10 foot-deep) instream pond, thereby improving survival for out-migrating smelts. However, this project is in the process of being terminated by the Federal Government, as the California Department of Fish and Game was unsuccessful in resolving landowner concerns with the proposed program and in gaining site access for project construction. Consequently, the California Department of Fish and Game requested termination of its agreement with the U.S. Fish and Wildlife Service. As no other alternatives or remedies exist to allow for project completion, the Bureau of Reclamation has initiated termination actions on this project.

Expected Project Completion Date: None

**Second and Third Quarter Accomplishments:**

This project is in the process of being terminated and having funds de-obligated because of unsuccessful landowner resolution and the inability to gain site access for project construction. As of June 30, 1999, deobligation of the funds has not yet occurred.

C) **Project Title:** Tuolumne River Setback Levees

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$655,000 |
| Funds Obligated Through June 30, 1999: | \$655,000 |
| Funds Expended Through June 30, 1999:  | \$0       |

**Funding Provided to:** U.S. Fish and Wildlife Service on September 13, 1998

**Project Description:** This project is designed to restore and protect fall-run chinook salmon habitat on the Tuolumne River affected by flooding and gravel mining operations within the floodplain by creating 1,450 linear feet of setback levees, moving 3,000 linear feet of levees, and regrading and revegetating 561,400 square feet of floodplain. It is designed to restore the Mining 7/11 Reach (river mile 37.7 to 40.3) to a more natural channel morphology. This project was identified by the Integration Panel as having a high priority and was selected by both the stakeholder groups and the Policy Group as a directed program. Funding sources for this project include (1) U.S. Fish and Wildlife Service Anadromous Fish Restoration Program - \$2,855,800; (2) Bureau of Reclamation Bay-Delta Program - \$655,000; (3) CALFED Category III Program - \$2,801,000; and (4) the Turlock and Modesto Irrigation District - \$50,000.

Expected Project Completion Date: September 30, 2001

**Second and Third Quarter Accomplishments:**

Environmental permitting and documentation, funded by the Anadromous Fish Program and the Turlock and Modesto Irrigation District, and including NEPA,



CEQA, and ESA compliance, are nearing completion (which is scheduled for September 30, 1999). Design work is about 80 percent complete and construction is scheduled to begin late in the summer of 1999 pending completion of all pre-implementation requirements. Funding from the Bay Delta Act appropriation will not be expended until construction begins.

|    |  |           |
|----|--|-----------|
| D) | <b>Project Title:</b> Fish Passage Project at Battle Creek |           |
|    | CALFED Recommended level of funding:                       | \$395,000 |
|    | Funds Obligated Through June 30, 1999:                     | \$395,000 |
|    | Funds Expended Through June 30, 1999:                      | \$10,688  |

**Funding Provided to:** California Department of Water Resources (DWR) on September 10, 1998

**Project Description:** DWR will conduct a topographic survey and produce a map of the upstream and downstream areas of each diversion of the Battle Creek hydroelectric system. DWR will also install, operate, and maintain 19 temporary water temperature recorders and 4 stream gauging stations at various locations on Battle Creek. Further, DWR will develop preliminary designs for fish ladders and screens at three of five diversion points on Battle Creek. Finally, DWR will perform an environmental investigation regarding the impacts of constructing fish ladders and screens at all five diversion locations on the Battle Creek and prepare a report of this investigation suitable for use in NEPA/CEQA documents supporting an EIS/EIR. The EIS/EIR will be performed in conjunction with the Battle Creek Salmon and Steelhead Restoration Project. The objective of this project is to have preliminary designs and environmental work substantially complete so the final design can be completed and the construction process can proceed in the phased restoration program being developed by the Battle Creek Working Group. In addition to the funding provided by the California Bay Delta Environmental Enhancement Act, the Metropolitan Water District of Southern California will provide Category III funds in excess of \$300,000 to support this project.

Expected Project Completion Date: April 15, 2000

**Second and Third Quarter Accomplishments:**

DWR has conducted the topographic survey and has begun a preliminary design of a new fish ladder and fish screen for the Coleman Diversion structure. This project's scope is currently being adjusted to reflect authorization and funding of the Battle Creek Salmon and Steelhead Restoration Project discussed later in this report.

2) **Project Title:** Battle Creek Salmon and Steelhead Restoration Project

|  |              |
|--|--------------|
| CALFED Recommended level of funding:   | \$28,000,000 |
| Funds Obligated Through June 30, 1999: | \$196,304    |
| Funds Expended Through June 30, 1999:  | \$196,304    |

**Funding provided to:** Bureau of Reclamation

**Project Description:** This project would implement changes to Pacific Gas and Electric (PG&E) hydropower facilities and operations on Battle Creek's north and south forks and key tributaries. The proposed project includes 1) decommissioning and removing five diversion dams (Wildcat, Coleman, South, Lower Ripley, and Soap Creek Diversion Dams); 2) constructing ladders at three diversion dams (Eagle Canyon, North Battle Creek Feeder, and Inskip Diversion Dams) and screening their associated diversions; 3) increasing flow releases from remaining diversion dams; and 4) constructing powerhouse tailrace connectors to eliminate redundant screening and mixing of north and south fork waters. The project will create an Adaptive Management Plan that includes the establishment of two funds which may be used in the future to fine tune the proposed project to help ensure its success. Implementation of the project will be a collaborative effort of the Bureau of Reclamation, PG&E, National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Water Resources, State Water Resources Control Board, and the local Battle Creek Watershed Conservancy. Ultimately, the project will be operated and maintained by PG&E. The estimated total cost of this project is \$50,509,000, including \$20,821,000 for construction of facilities; \$22,188,000 for releases of increased flows in the river (foregone power); \$1,500,000 for monitoring; \$3,000,000 for future water acquisition for increased water flows, if necessary; and \$3,000,000 for an adaptive management fund. Of the total estimated cost, about 40 percent is expected to come from PG&E, about 55 percent from Federal and State agencies, and about 5 percent from third-party contributors. The Bureau of Reclamation expects to initiate construction by November 2000.

Expected Project Completion Date: December 31, 2002

**Second and Third Quarter Accomplishments:**

A memorandum of understanding has been negotiated between the Bureau of Reclamation, Pacific Gas and Electric, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and California Department of Fish and Game. In addition to the memorandum of understanding, other work entailed: 1) meetings with the Federal Energy Regulatory Commission (FERC) regarding interagency coordination and the drafting of a communication protocol in accordance with FERC requirements; 2) development of detailed schedules and budgets for project implementation; 3) establishment of a web site for disseminating project information; and 4) coordinating with landowners regarding implementation of the proposed project.

3) **Project Title:** Anderson-Cottonwood Irrigation District (ACID) Fish  
Passage Project, Phase I

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$325,000 |
| Funds Obligated Through June 30, 1999: | \$325,000 |
| Funds Expended Through June 30, 1999:  | \$325,000 |

**Funding provided to:** Bureau of Reclamation contract signed with ACID on  
August 18, 1998

**Project Description:** The ACID project is located within a critically important reach for spawning chinook salmon and steelhead in the upper Sacramento River. This diversion has long been identified as a high priority entrainment and passage problem. To correct these problems, the project will construct a new fish screen and two ladders. A feasibility study, along with preliminary work on the permit application process, environmental documentation, and project design, was performed under Phase I. Phase II will complete feasibility and alternatives analysis, final project design, and environmental documents and permits. In Phase III, a construction contract is expected to be awarded by the end of FY1999, and construction will begin early in FY 2000. It is planned that the new facilities will be fully operational by April 2001.

The project will directly benefit all anadromous Sacramento River fish species within this important spawning reach for Federal and State-listed endangered winter-run chinook salmon and all other upper Sacramento River salmon runs currently proposed for listing. The project will also reduce stranding and entrainment, improve access to under utilized habitat, and increase production of natural runs of anadromous salmonids and sturgeon.

The total estimated cost for Phase III is \$10,506,000. The State of California will provide an additional \$5,253,000 from Proposition 204 funds to fully fund this phase of the project.

Expected Project Completion Date: August 31, 1999

**Second and Third Quarter Accomplishments:** The ACID continues to hold fish passage team meetings and work on the permit application process, environmental documentation, and design work in support of the second and third phases of this project. Proposed contracts have been developed and are currently under contracting review. All funds under this contract have been dispersed because of the phased nature of the work involved

**Project Title:** Anderson-Cottonwood Irrigation District  
Fish Passage and Fish Screen Improvement,  
Phase II

For funding, obligation, and expenditure information, please see Item 3 on a preceding page in this topic area.

**Funding provided to:** Bureau of Reclamation contract signed with ACID on April 12, 1999

**Project Description:** See description under Phase I above.

Expected Project Completion Date: August 31, 1999

**Second and Third Quarter Accomplishments:**

During this quarter, the irrigation district coordinated project monitoring and management, and conducted agency workshops in accordance with contract requirements. In addition, preparation of environmental documentation is in progress, including work on the permit application process, and the District began drafting the Monitoring Plan. A time extension may be required for completion of the permit application process.

4) **Project Title:** Anderson-Cottonwood Irrigation District Fish Passage  
Improvement Project, Phase III

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$5,253,000 |
| Funds Obligated Through June 30, 1999: | \$0         |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** Bureau of Reclamation

**Project Description:** See description under Phase I above.

Expected Project Completion Date: December 31, 2005

**Second and Third Quarter Accomplishments:**

Proposed cost share agreement is in procurement for review and issuance.

5) **Project Title:** Lower Butte Creek Project, Phase II

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$775,000 |
| Funds Obligated Through June 30, 1999: | \$0       |
| Funds Expended Through June 30, 1999:  | \$0       |

**Funding provided to:** Bureau of Reclamation

**Project Description:** Improved fish passage through the Butte Sink and its associated water control structures is expected to improve the long-term sustainability of natural production of anadromous fish populations, in particular spring-run chinook salmon and steelhead. Maintaining the viability of associated managed wetlands and agriculture will also benefit numerous other species.

Phase I of the Lower Butte Creek Project, completed June 30, 1998, was designed as a “grassroots” effort to bring all interested stakeholders together in a public forum to address the diverse issues surrounding the use of Lower Butte Creek water. The result of this effort was an “existing conditions report” that detailed the water control structures located in the study area and listed alternatives to improve fish passage at each control structure site.

Phase II of the Lower Butte Creek Project is the logical progression of work to improve fish passage through the Butte Sink and its associated water control structures. This will involve working with stakeholder groups to select a preferred alternative at each of four sites, resulting in preliminary design of major structural modifications and final design for upgrading the fish passage for Butte Sink. Public scoping will include a review of the fisheries impacts associated with the recommendations prepared by the engineers to correct fish entrainment problems associated with periodic area flooding and resulting receding water.

Expected Project Completion Date: June 30, 2001

**Second and Third Quarter Accomplishments:**

The proposed contract is in procurement for review and issuance.

**Habitat Restoration in Floodplains and Marshes:**

|   |                     |
|---|---------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$41,652,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$32,841,597</b> |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$8,189,923</b>  |

- 1) **Program Title:** Floodplain Restoration/Habitat Restoration on Existing Conservation Lands Program

|  |              |
|--|--------------|
| CALFED Recommended level of funding:   | \$16,700,000 |
| Funds Obligated Through June 30, 1999: | \$14,000,000 |
| Funds Expended Through June 30, 1999:  | \$37,500     |

**Funding provided to:** U.S. Fish and Wildlife Service

**Program Description:** This program will focus on opportunities to expand floodways and riparian corridors and provide greater flood management flexibility and ecosystem benefits. It will use the priority species to identify and restore lands within the floodplains of the major rivers or their tributaries. An emphasis will be placed on lands flooded in January 1997. Conservation easements will be given preference if they meet ecosystem restoration objectives. This program will also implement habitat restoration at existing sites already in conservation ownership. The U.S. Fish and Wildlife Service is managing

this program and worked with the Corps of Engineers, Natural Resources Conservation Service, Bureau of Land Management, other CALFED agencies, and outside experts to develop a proposal solicitation and review process. Proposals were solicited in May 1998; a total of 61 proposals were received. Of these, 18 were selected for funding and are described below:

**Second and Third Quarter Accomplishments:** The Service has entered into cooperative agreements (or other appropriate funding mechanisms) with proponents of 14 of 18 projects approved through the proposal solicitation, as well as two directed projects. The remaining agreements will be finalized in the in the fourth quarter of this year. Many of these projects involve the acquisition of easements or fee title, and the processes needed to support these acquisitions (e.g., appraisals, contaminant surveys, negotiations) are ongoing; specific accomplishments are discussed for each project below. A balance of \$17,495 has yet to be allocated by the U.S. Fish and Wildlife Service. Specific accomplishments are discussed below for each project.

(A) **Title:** Floodplain Restoration and Habitat Restoration Projects  
under Solicitation -

|  |              |
|--|--------------|
| CALFED Recommended Level of Funding:         | \$16,545,000 |
| Total Funds Obligated Through June 30, 1999: | \$13,845,000 |
| Total Funds Expended Through June 30, 1999:  | \$37,500     |

**Funding Provided to:** U.S. Fish and Wildlife Service on August 13, 1998

**Description:** Details about the individual projects approved through the proposal solicitation follow.

Project Selection Process: April 2, 1998

Final Project Selection: September 14, 1998

**Second and Third Quarter Accomplishments:**

Eighteen projects have been identified; 14 contracts with third parties have been signed as appropriate; 3 projects are still awaiting award; and 1 project is being withdrawn based on the proponent's request. Projects awaiting contracting or withdrawal are as follows:

| <b>Project</b>  | <b>Recommended Funding Level</b> | <b>Funding Recipient (Project proponent)</b>  |
|---|----------------------------------|---|
| Floodplain Acquisition, Management, and Monitoring on the Sacramento River                | \$1,000,000                      | The Nature Conservancy, Wildlife Conservation Board, and California Department of Fish and Game |
| Cosumnes River Acquisition, Restoration Planning, and Demonstration                       | \$750,000                        | The Nature Conservancy  |
| Deer Creek/Mill Creek Acquisitions and Enhancement  | \$1,000,000                      | The Nature Conservancy  |
| Nelson Slough Wildlife Area Restoration Demonstration Project - <b>Pending Withdrawal</b> | \$256,000                        | California Department of Fish and Game  |
| <b>TOTAL</b>  | <b>\$3,006,000</b>               |   |

- 1) **Project Title:** Grayson River Ranch Perpetual Conservation Easement and Restoration

CALFED Recommended level of funding: \$732,000

**Funding provided through:** U.S. Fish and Wildlife Service to East Stanislaus Reclamation Conservation District and the Friends of the Tuolumne River on January 8, 1999

**Project Description:** This project will restore 139.9 acres of a naturally self-sustaining riparian floodplain adjacent to the Tuolumne River. Funds provided through this agreement are to complete an easement purchase and to fund restoration activities.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Negotiations on the easement acquisition of 136.9 acres have been completed and are continuing for the remaining 3 acres. An overall Tuolumne River Restoration Plan has been completed, and planning for Grayson River Ranch Restoration will begin in the next quarter.

- 2) **Project Title:** Rhode Island Floodplain Management &

Habitat Conservation  
CALFED Recommended level of funding: \$25,000

**Funding provided through:** U.S. Fish and Wildlife Service to California Department of Fish and Game on April 9, 1999

**Project Description:** Rhode Island, a 67-acre Delta island, was breached in 1938. This project involves reviewing historical data and records regarding Rhode Island to determine its history of flooding, hydrology, flora, and fauna. The purpose of this research is develop preliminary baseline data and an initial determination of whether ecosystem restoration is desirable for this island tract.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Literature and historical record review is currently underway, as are carrying capacity studies of the island's structure.

- 3) **Project Title:** Stone Lakes National Wildlife Refuge  
Land Acquisition

CALFED Recommended level of funding: \$1,900,000

**Funding provided to:** U.S. Fish and Wildlife Service

**Project Description:** This project will permanently protect and restore important Delta smelt habitat and vernal pool species and improve the health of the Bay-Delta and Cosumnes/Mokelumne River floodplain. Under this project, 555 acres of land will be added to the refuge.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Negotiations with current property owners continue. The U.S. Fish and Wildlife Service has requested approval from CALFED to amend the current agreement with the Bureau of Reclamation to allow flexibility in the choice of property acquired without any change to the amount approved for the project.

- 4) **Project Title:** Lower Clear Creek Floodway Restoration  
Project

CALFED Recommended level of funding: \$3,559,596

**Funding provided through:** U.S. Fish and Wildlife Service to Western Shasta Resource Conservation District on April 1, 1999

**Project Description:** The project involves the rehabilitation of two degraded reaches of lower Clear Creek in Shasta County by actively restoring a natural channel and floodplain morphology and revegetating the newly created floodplain.



Revegetation efforts will concentrate on native riparian vegetation to provide immediate spawning habitat for chinook salmon and restored floodplain habitat for amphibians and terrestrial wildlife species.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Work on this project has just begun. Focus has been on on-the-ground revegetation layout and organization for this project. The first major work on this project is not expected to commence until late in FY 1999.

- 5) **Project Title:** Fern-Headreach Tidal Perennial Aquatic &  
Shaded River Aquatic Conservation Project  
CALFED Recommended level of funding: \$425,000

**Funding provided through:** U.S. Fish and Wildlife Service to Thomas Luckey, L & L Farms on April 6, 1999

**Project Description:** This project will result in the purchase of an 168-acre complex known as Fern-Headreach Island and simultaneously establish a permanent conservation easement to protect approximately 28 acres of shaded riverine aquatic habitat and 140 acres of shallow water tidal perennial aquatic marsh.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Appraisal of the subject property is in progress and is expected to be completed in July 1999. Conservation easement language has been worked out between the California Department of Fish and Game and the U.S. Fish and Wildlife Service. Property purchase and easement establishment are expected by the end of next quarter.

- 6) **Project Title:** Benicia Waterfront Marsh Restoration  
CALFED Recommended level of funding: \$59,000

**Funding provided through:** U.S. Fish and Wildlife Service to the City of Benicia on February 3, 1999

**Project Description:** This project involves the development of final restoration plans, including obtaining all necessary permits for the marsh restoration. This work will consist of refining the channel design and grading plan, preparing planting plan and exotic weed control plans, designing viewing platforms and displays, preparing marsh monitoring plan, and completing environmental compliance and permitting documentation.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

A consultant was hired by the City of Benicia to assist in completing the project. The city held a startup meeting on June 15, 1999. A preliminary site survey focusing on the hydrology of the project site and location of viewing platforms was initiated.

- 7) **Project Title:** Lower San Joaquin River Floodplain  
Protection & Restoration

CALFED Recommended level of funding: \$1,100,000

**Funding provided to:** U.S. Fish and Wildlife Service

**Project Description:** This project will result in the acquisition of approximately 303 acres of land within the lower San Joaquin River floodplain and the restoration of riparian and other wetland habitats for the benefit of numerous species including the Aleutian Canada goose, greater sandhill crane, western yellow-billed cockoo, riparian brush rabbit, giant garter snake, and western pond turtle.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Negotiations with landowners are ongoing. The U.S. Fish and Wildlife Service has completed the appraisals for multiple properties included in the acquisition. NEPA documentation is complete via the Record of Environmental Consideration signed by the California/Nevada Operations Manager on April 20, 1999.

- 8) **Project Title:** Biological Restoration and Monitoring in  
the Suisun Marsh/North San Francisco Bay  
Ecological Zone

CALFED Recommended level of funding: \$772,667

**Funding provided through:** U.S. Fish and Wildlife Service to the California State University, Hayward, on January 4, 1999

**Project Description:** This project will involve the restoration and monitoring of marsh areas to improve ecosystem habitats and allow natural ecological processes to continue. This will involve increasing flows between marshes and the adjacent bay at the Tubbs Island setback site and Peyton Slough. Monitoring will also lead to improvements at water control structures to allow large fish passage.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Integrated monitoring has led to improvements in "debris guards" at an enlarged water control structure which allowed passage of larger fishes; sampling of aquatic life in the Suisun Marsh identified that yellowfin goby, a detrimental invasive fish species, is being successfully removed. Overall monitoring efforts in marshes and

soil and plant testing for mercury and lead continues. The four sampling sites span an array of environmental conditions and allow comparisons of results over time. One additional sampling site in a pristine marsh area has been added at no additional cost to this Bay-Delta project.

- 9) **Project Title:** South Napa River Slough and Floodplain  
Restoration Project  
CALFED Recommended level of funding: \$1,455,000

**Funding provided through:** U.S. Fish and Wildlife Service to the City of American Canyon on January 9, 1999

**Project Description:** The purpose of this project is to restore existing city-owned wastewater treatment ponds to tidal wetlands, acquire and restore adjacent degraded tidal wetlands, and create a visitor's viewing area and interpretive program.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Two property appraisals were completed, and a draft sales agreement was prepared with the Port of Oakland. However, both appraisals resulted in a higher cost for project completion than approved by CALFED. The City of American Canyon is negotiating with the Port of Oakland for agreement acceptance based on the funding available. Biological work, including wetlands delineation and background surveys, was also completed during this quarter.

- 10) **Project Title:** Butte Creek Riparian Restoration Demonstration  
CALFED Recommended level of funding: \$76,348

**Funding provided through:** U.S. Fish and Wildlife Service to California State University, Chico on February 11, 1999

**Project Description:** This project is designed to demonstrate to the public how riparian habitat can be restored in wetland and other areas along Butte Creek.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

An existing vegetation map has been prepared, and a restoration ecologist has completed an initial survey of the area to prepare a planting plan. An electric gate has been purchased to control entrance and exit from the area, and a sign marker for the area has been ordered to be placed in view of Highway 99.

- 11) **Project Title:** Hill Slough West Habitat Restoration  
Demonstration Project , Phase I  
CALFED Recommended level of funding: \$200,000

**Funding provided through:** U.S. Fish and Wildlife Service to California Department of Fish and Game on January 7, 1999

**Project Description:** The ultimate goal of this project is to restore tidal action to approximately 200 acres of seasonal and permanent wetlands in the northeastern portion of Suisun Marsh. Primary restoration methods will entail selective or complete levee removal, limited excavation of higher order channels, limited replanting of sensitive plant species, and a program of invasive species management. Implementation will be carried out over a period of 5 years in a transition from perennial aquatic habitat to low, high, and upland marsh habitat. This first phase of the project will coordinate activities with the Suisun Marsh Environmental Coordination Advisory Team and secure detailed hydrologic and topographic surveys.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

A request for proposal has been written to hire a consultant to conduct detailed topographic and hydrologic assessments of the project area. This proposal is currently under review by the project advisory team.

- 12) **Project Title:** South Napa River Wetlands Acquisition &  
Restoration Program  
CALFED Recommended level of funding: \$431,000

**Funding provided through:** U.S. Fish and Wildlife Service to the Napa County Land Trust on January 7, 1999

**Project Description:** This project will restore and permanently protect historical wetlands adjacent to the Napa River near the City of Napa, California. Seventy seven acres of historical wetlands will be acquired and existing levees modified or removed to restore and enhance the natural tidal wetland functions.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Land acquisition process is in progress by working with area landowners to identify willing sellers in the area. The Federal and local environmental impact report on this project has been approved.

- 13) **Project Title:** Petaluma Marsh Expansion Project - Marin County  
CALFED Recommended level of funding: \$352,135

**Funding provided through:** U.S. Fish and Wildlife Service to Marin Audubon Society on January 7, 1999

**Project Description:** This project will restore and permanently protect 181.46 acres of tidal marshland. Of this acreage, 109.72 acres of previously diked marshland will be restored to tidal marsh status. Upon completion of the acquisition and restoration, the site will be transferred to the California Department of Fish and Game.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

An updated appraisal has been completed. Current estimated market value for the property exceeds the funding provided for acquisition. Marin Audubon Society staff are continuing negotiations with the landowners and searching for other sources of contributed funds. In the meantime a draft restoration plan is being developed in cooperation with the California Department of Transportation.

- 14) **Project Title:** Merced River Salmon Habitat Enhancement, Phase III  
CALFED Recommended level of funding: \$2,433,759

**Funding provided through:** U.S. Fish and Wildlife Service to California Department of Fish and Game on April 19, 1999

**Project Description:** This project includes removing salmonid predator habitat and developing and improving spawning and rearing habitat for juvenile salmon. Tasks in this project include filling and eliminating isolated ponds, reconfiguring river channels to improve salmon spawning and rearing habitat, and replanting floodplains with native vegetation.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

The California Department of Fish and Game received a signed access agreement from the landowner of the project site. Project activities during this period included project management, initiation of environmental documentation and permitting, and design and engineering. Project management activities have included contract processing and management for the CALFED and State funded contracts, project budget management, and overall project coordination and meetings. Environmental surveys and final project design work have begun.

**B) Project Title:** Butte Creek Acquisition

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|--|-----------|
| CALFED Recommended level of Funding:         | \$125,000 |
| Total Funds Obligated Through June 30, 1999: | \$125,000 |
| Total Funds Expended Through June 30, 1999:  | \$0       |

**Funding Provided to:** U.S. Fish and Wildlife Service on August 13, 1998

**Project Description:** The Research Foundation of California State University, Chico, and the Butte Creek Watershed Conservancy are engaged in a long-range watershed management planning effort for Butte Creek in cooperation with landowners, water users, agricultural interests, conservation groups, and State and Federal agencies under the supervision of the Department of Geography and Planning at California State University, Chico. Protection of critical habitat for the endangered spring-run chinook salmon and steelhead trout populations of Butte Creek is a high-priority for all the agencies working on anadromous fisheries. The purchase of 146 acres of land, with 1.5 miles of creek frontage, would provide an opportunity to develop and demonstrate methods of channel and floodplain management that would help stabilize the sediment and bedload input from the remains of the gravel mining operation. Development of a natural floodplain could have tremendous implications for riparian plant species and help to cool the stream, filter urban runoff, capture large woody debris and increase the water storage and groundwater recharge capabilities of lower Butte Creek. Funding for this project has been provided through the State of California's Department of Water Resources, the State's Proposition 204, and the Bay-Delta Act appropriations Account (total project cost is estimated to be \$547,068).

Project Completed: December 31, 1998

**Second and Third Quarter Accomplishments:**

Land acquisition is complete. The Bureau of Reclamation is awaiting request for reimbursement from the U.S. Fish and Wildlife Service to expend funds.

**C) Project Title:** Lower Mill Creek Riparian Restoration

|  |          |
|--|----------|
| CALFED Recommended Level of Funding:         | \$30,000 |
| Total Funds Obligated Through June 30, 1999: | \$30,000 |
| Total Funds Expended Through June 30, 1999:  | \$0      |

**Funding Provided to:** U.S. Fish and Wildlife Service on August 13, 1998

**Project Description:** The proposed project will restore and enhance native riparian vegetation on one or more parcels along lower Mill Creek, a high-priority tributary of the upper Sacramento River. The project will focus on one or more identified gaps in existing riparian habitat along lower Mill Creek and will contribute toward the long-range goal of restoring a continuous corridor of native riparian vegetation.

The Mill Creek Conservancy and The Nature Conservancy will coordinate project implementation with the landowner, teachers and students from the Los Molinos High

School, and the Mill Creek Watershed Advisory committee. Specific tasks will include planting native shrubs and trees adjacent to existing vegetation to fill gaps in the riparian corridor, controlling invasive non-native plants, and monitoring plant survival and water temperature. Funding for this project has been provided through the State's Proposition 204, the Bay-Delta Act, and other local districts (total project cost is estimated to be \$238,000).

Expected Project Completion Date: April 28, 2001

**Second and Third Quarter Accomplishments:**

The Los Molinos Unified School District continues to develop baseline reports for plant survival and water temperature. Preparation of outreach information for landowners is under development, and the Mill Creek Conservancy continues to perform outreach to interested groups and the public.

- 2) **Project Title:** San Joaquin Floodplain Acquisition and  
Riparian Restoration

|  |              |
|--|--------------|
| CALFED Recommended level of funding:   | \$10,647,000 |
| Funds Obligated Through June 30, 1999: | \$10,647,000 |
| Funds Expended Through June 30, 1999:  | \$1,717,274  |

**Funding provided to:** U.S. Fish and Wildlife Service on March 11, 1998

**Project Description:** This project consists of acquisition, preservation, and restoration of 6,169 acres of fish and wildlife habitat along the San Joaquin River floodplain for the San Joaquin River National Wildlife Refuge, which will provide benefits to migratory birds and other bird species, splittail, and San Joaquin fall-run chinook salmon. The project will provide increased flood protection through widening the floodplain and transient storage of floodwaters. The Service is combining Bay-Delta funding with funds from the Natural Resources Conservation Service's Emergency Watershed Protection Program (\$5,000,000) and the Service's Emergency Supplemental Appropriation (\$5,000,000).

Expected Project Completion Date: December 31, 1999

**Second and Third Quarter Accomplishments:**

To date, 2,030 acres of land have been acquired from three willing sellers on the west side of the San Joaquin River. Bay-Delta Act funds underwrote a percentage of one parcel acquired. Appraisals and negotiations are ongoing with landowners for additional parcels. Progress has been made on the hydraulic model, and a revised completion schedule has been devised. The new estimated completion date for the hydraulic model is now January 2000. Fieldwork on the biological component is nearing completion.

- 3) **Project Title:** Bear Creek Floodplain Restoration Demonstration Project
- |  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$334,000 |
| Funds Obligated Through June 30, 1999: | \$334,000 |
| Funds Expended Through June 30, 1999:  | \$331,408 |

**Funding provided to:** U.S. Fish and Wildlife Service on March 11, 1998

**Project Description:** This project involves development and completion of a feasibility analysis for restoring floodplain functions along the San Joaquin River and Bear Creek on public lands to provide flood protection benefits, enhance shaded riverine aquatic habitat and wetlands, and improve instream habitat for the San Luis National Wildlife Refuge Complex. Project studies will include geomorphic channel effects and floodplain hydraulics. Benefits are expected to accrue to migratory birds, San Joaquin fall-run chinook salmon, and several other fish species, in addition to increased flood control benefits.

Expected Project Completion Date: March 31, 1999 (Extension Requested to January 30, 2000)

**Second and Third Quarter Accomplishments:**

Completed bathymetric surveys and used new data to refine and complete digital terrain model of the San Joaquin River and Bear Creek channels and floodplain between the Merced River confluence and the Mariposa Bypass. Calibrated model output based on a 30-day hydrograph of the January 1997 flood event, simulated flows with three large breaches of the west side levee (each breach 200 feet wide and excavated to the base level of the natural floodplain), and communicated with Caltrans district staff regarding the actual extent of flooding of state roads in the 1996 and other flood events. A new estimate for completion of the hydraulic modeling and all other work on this project is now scheduled for January 30, 2000.

- 4) **Project Title:** McCormack-Williamson Tract Acquisition
- |  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$5,250,000 |
| Funds Obligated Through June 30, 1999: | \$0         |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** U.S. Fish and Wildlife Service

**Project Description:** The McCormack-Williamson Tract is a critically important property in pursuing ecological restoration of the northern Delta and linking the habitat corridor along the Mokelumne River. Benefits from the acquisition include the protection of farmland, with high seasonal habitat value for sandhill cranes and waterfowl, and wetlands and aquatic species. Acquisition and restoration of the island also has the potential to address and resolve critical flood-related issues in the area.

Expected Project Completion Date: August 31, 1999



**Second and Third Quarter Accomplishments:**

The contracting package is currently under development. In January 1999, the seller and The Nature Conservancy reached agreement on a sale at \$5.2 million. The Nature Conservancy expects to close on the property in the fourth quarter. The Nature Conservancy will hold the property for a minimum of 3 years before transfer to the U.S. Fish and Wildlife Service.

- 5) **Project Title:** McCormack-Williamson Tract's Wildlife - Friendly Levee Improvement and Farming Program

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$860,000 |
| Funds Obligated Through June 30, 1999: | \$0       |
| Funds Expended Through June 30, 1999:  | \$0       |

**Funding provided to:** U.S. Fish and Wildlife Service

**Project Description:** Restoration of this island has the potential to help resolve critical flood-related issues in this area, including identification of levees most in need of reinforcement and alternative planting strategies for levee and island stabilization. Tasks under this project are dependant on the acquisition of the Tract as described under the McCormack-Williamson Tract Acquisition project immediately above. To date, land acquisition has not occurred.

Expected Project Completion Date: August 30, 2002

**Second and Third Quarter Accomplishments:**

Agreement negotiations with the U.S. Fish and Wildlife Service are in progress. The Bureau of Reclamation and the Service staff developed an interagency agreement to fund this project. Final approval of the agreement is expected in the fourth quarter, when project implementation will begin.

- 6) **Project Title:** Napa River Wetlands Acquisition

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,000,000 |
| Funds Obligated Through June 30, 1999: | \$1,000,000 |
| Funds Expended Through June 30, 1999:  | \$910,000   |

**Funding provided to:** Bureau of Reclamation contract signed with Napa County Land Trust on September 24, 1998

**Project Description:** This project will allow acquisition of approximately 68 acres of diked, historic wetlands along the Napa River. The land will be restored to its former historic state through development of floodplains and marsh plains. This project will restore several of CALFED's priority habitats, including seasonal wetland habitats with floodplains, instream aquatic habitat of the Napa River, riparian habitat, and saline emergent wetlands habitat in the tidal brackish marsh and is a phased approach to land

acquisition and restoration. This project provides about \$910,000 for land acquisition, with the balance of the funds to be utilized for restoration activities and overall project administration. Once acquired by the Napa County Land Trust, the title to this property will be simultaneously conveyed to the California Department of Fish and Game, along with the responsibility for maintenance. Restoration activities will be undertaken by the California Department of Fish and Game and the U.S. Army Corps of Engineers.

Expected Project Completion Date: September 30, 2000

**Second and Third Quarter Accomplishments:**

Napa County Land Trust requested a modification to the contract in a letter dated March 15, 1999. The request summarized Napa County Land Trust's inability to simultaneously convey the 68.1 acres to the California Department of Fish and Game. The California Department of Fish and Game requires that all five proposed land parcels in this area be conveyed at one time, once all parcels of land are acquired by the Napa County Land Trust. Reclamation is currently processing the modification. Additionally, field work with the Reclamation real estate appraiser has been completed and approved. The flood control district and landowners are working to reconcile the amount of flood project soils to be deposited in adjoining wetlands. This soil disposal must meet the approval of the Regional Water Quality Control Board and the State Department of Fish and Game. Meetings were held with legal counsel to discuss land acquisition issues.

- 7) **Project Title:** Cache Slough Shaded Riverine Aquatic Habitat Enhancement
- |  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$85,000 |
| Funds Obligated Through June 30, 1999: | \$85,000 |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** Bureau of Reclamation contract with Reclamation District 2060 signed on June 2, 1998

**Project Description:** Reclamation District 2060 proposes restoration of approximately 2,000 linear feet of levee bank where erosion has destroyed shaded riverine aquatic habitat and created erosion pockets. This will be Phase I of the project, which involves surveys, designs, and environmental documentation. Phase II will be the actual construction work, which is not a part of this contract. Instead of utilizing traditional erosion repair (i.e., fill and riprap), Reclamation District 2060 plans to stabilize the bank using bioengineering (i.e.; biologs [fibre rolls filled with soil and seeds to provide natural erosion control] reed rolls, sod, etc.) to encourage habitat that will benefit target priority species, including the Delta smelt.

Expected Project Completion Date: June 30, 1999 (Extension Requested to September 30, 1999)

**Second and Third Quarter Accomplishments:**

Some of the erosion sites considered for this project were being evaluated for repair by the Corps of Engineers, as part of their responsibility to maintain flood control protection, thereby delaying the project progress. Due to this delay, the recipient's project manager has requested a time extension, from the original completion date of December 31, 1998, to September 30, 1999. This request is being processed and will result in a no cost modification to the contract. Topographic and biological surveys were performed on five preliminary erosion sites and preliminary design was initiated.

- 8) **Project Title:** Cosumnes River Floodplain Acquisition
- |  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$3,500,000 |
| Funds Obligated Through June 30, 1999: | \$3,500,000 |
| Funds Expended Through June 30, 1999:  | \$3,500,000 |

**Funding provided to:** Bureau of Reclamation contract with The Nature Conservancy signed on July 8, 1998

**Project Description:** The Nature Conservancy (TNC) and the Wildlife Conservation Board collaborated to acquire three properties (Whaley, Denier, and Park) from private willing sellers, for a total of 2,245 acres. The title of these properties was vested with the Board, the State Lands Commission, or The Nature Conservancy and are now part of the Cosumnes River Preserve. The Preserve, a multi-partner effort, has successfully protected and restored riparian forest, seasonal wetland, and tidal habitats along the Cosumnes River for 10 years.

Project Completed: December 31, 1998

**Second and Third Quarter Accomplishments:**

Bay-Delta Act funded acquisitions were completed on December 31, 1998.

- 9) **Project Title:** Regional Wetlands Goals Project
- |  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$76,000 |
| Funds Obligated Through June 30, 1999: | \$76,000 |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** U.S. Environmental Protection Agency (EPA) on August 25, 1998

**Project Description:** This project is a multi-agency, interdisciplinary planning effort to identify the kinds, amounts, and distribution of wetlands and related habitats needed to sustain diverse and healthy communities of fish and wildlife in the northern San Francisco Bay and Suisun Bay subregions. The habitat restoration goals for this project will provide the biological basis for regional wetlands management and guidance for private, local, State, and Federal entities seeking to protect and improve the region's wetlands. EPA is working with the San Francisco Estuary Institute to accomplish the goals of this project,

which include a biological monitoring plan that identifies objectives of monitoring, obtaining all necessary environmental documentation, and reporting on information obtained.

Project Completed: March 31, 1999

**Second and Third Quarter Accomplishments:**

The final report "Baylands Ecosystem Habitat Goals: A Report of Habitat Recommendations Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project" was released at the State of the Estuary Conference in March 1999. The report has received good media coverage and was widely distributed.

10) **Project Title:** Habitat Restoration/Flood Control Bypasses Program

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,200,000 |
| Funds Obligated Through June 30, 1999: | \$1,200,000 |
| Funds Expended Through June 30, 1999:  | \$10,696    |

**Funding provided to:** U.S. Army Corps of Engineers (COE) on September 25, 1998

**Project Description:** The current flood control bypasses along the Sacramento River provide seasonally flooded habitat, but also result in the stranding of juvenile salmonids and other Delta fish. This program will evaluate restoration needs and opportunities to improve habitat, reduce stranding, and improve connectivity with the Sacramento River and the north Delta. Elements to be evaluated include a) improving existing habitats; b) improving streamflows within the bypasses and their associated sloughs, c) improving wetland, riparian, slough, agricultural, and shaded reverie aquatic habitats, d) eliminating fish barriers, e) reducing fish entrainment and stranding, f) developing wildlife and fisheries friendly levee maintenance programs, g) developing consensus based plans by implementing pilot projects, h) developing information on compatibility with the ecology, and i) developing information on bypass characteristics for improvement plans. The proposed actions will be developed to avoid conflicts with existing and future flood control needs. The U.S. Army Corps of Engineers will work with CALFED staff to develop this program in accordance with Ecosystem Roundtable and Policy Team requirements.

Expected Project Completion Date: Still developing the program with CALFED staff.

**Second and Third Quarter Accomplishments:**

The U.S. Corps of Engineers contracting staff are in the process of initiating cooperative agreements. Funds are in the process of being awarded to the Natural Heritage Institute (NHI) since selection of their proposal by CALFED. This project is entitled "Phase I: Baseline Monitoring, Alternatives Analysis, and Design," which is part of an overall project entitled "Inundation of a Section of the Yolo Bypass to Restore Sacramento splittail and to Support a Suite of Other Anadromous and Native Species in Dry Years."

- 11) **Project Title:** Prospect Island Habitat Protection Project
- |  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$2,000,000 |
| Funds Obligated Through June 30, 1999: | \$1,999,597 |
| Funds Expended Through June 30, 1999:  | \$1,683,045 |

**Funding provided to:** U.S. Army Corps of Engineers on September 17, 1998

**Project Description:** The U.S. Army Corps of Engineers and the State of California, Department of Water Resources, are co-sponsors of this project, which is designed to restore 1,200 acres of freshwater tidal marsh and riparian habitat in the Delta. This project would provide beneficial rearing habitat for fry and juvenile chinook salmon; spawning and rearing habitat for resident Delta fish, such as Delta smelt and splittail; and habitat for waterfowl and shorebirds. The U.S. Fish and Wildlife Service will include the project in the proposed North Delta National Wildlife Refuge.

Expected Project Completion Date: September 30, 1999

**Second and Third Quarter Accomplishments:**

The levees have been repaired and the cross levee was completed in January 1999. This quarter, the final pump out of Prospect Island north of the cross levee area was completed. Any needed sandbagging and covering on the cross levee will resume prior to the winter rainy season.

**River Channel Changes:**

|   |                     |
|---|---------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$14,884,010</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$9,794,010</b>  |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$243,040</b>    |

- 1) **Project Title:** Merced River Salmon Habitat Enhancement, Phase I: Robinson/Gallo Project, Ratzlaff Reach Site

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,633,000 |
| Funds Obligated Through June 30, 1999: | \$0         |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** Bureau of Reclamation

**Project Description:** This is a construction project to mitigate for old gravel mining operations that have created large pits in the Merced River floodplain, destroying salmonid habitat and creating pools for predatory fish. Isolating these pools is critical to restoring habitat and reducing the loss of juvenile fish to unnaturally high levels of predation. With design engineering complete, the Ratzlaff project will begin construction to isolate predator habitat and create improved habitat for chinook salmon and salmonid species.

This will include isolating approximately 45 acres of captured ponds, reconfiguring the channel and increasing spawning habitat, and creating floodplain that will be replanted with native riparian vegetation. This project is part of the Merced River Habitat enhancement program, which is part of a 3-mile restoration effort associated with the Lower Western Stone Restoration Project.

Expected Project Completion Date: September 30, 1999

**Second and Third Quarter Accomplishments:** Agreement negotiations with the California Department of Water Resources (DWR) are in progress. DWR is completing the construction bid process and construction will begin once the contract is awarded and Bay-Delta Act funding is received.

- 2) **Project Title:** Preliminary Design and Engineering of the Lower Western Stone Restoration Site, Merced River

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$130,000 |
| Funds Obligated Through June 30, 1999: | \$0       |
| Funds Expended Through June 30, 1999:  | \$0       |

**Funding provided to:** Bureau of Reclamation

**Project Description:** The Lower Western Stone Restoration Project will develop preliminary design and engineering plans to address isolation or filling of the pit at Lower Western Stone Restoration Site located 3/4 of a mile downstream from the Ratzlaff site. When restoration of these two sites is completed, the project will have restored 3 miles of important aquatic and riparian habitat.

Expected Project Completion Date: Winter/spring 2000

**Second and Third Quarter Accomplishments:**

Agreement negotiations with the California Department of Water Resources are in progress.

- 3) **Project Title:** Tuolumne River Special Run Pool (SRP) 10 Restoration

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$165,000 |
| Funds Obligated Through June 30, 1999: | \$0       |
| Funds Expended Through June 30, 1999:  | \$0       |

**Funding provided to:** Bureau of Reclamation

**Project Description:** The purpose of this project is to repair the existing levee breach and monitor the site. Old gravel mining operations have created large pits in the Tuolumne River floodplain, destroying salmonid habitat and creating pools for predatory fish. Two such areas are Special Run Pools (SRP) 9 and 10, which are very similar in nature. However, recent high flow events have breached private levees designed to separate the mining pits from the river for SRP 10. This has provided access for predatory fish to enter

the channel and prey upon juvenile anadromous fish, in particular the San Joaquin fall-run chinook. Since nearly all naturally produced San Joaquin River juvenile salmon must pass through this project site, isolating SRP 10 is critical to restoring habitat and reducing the loss of juvenile fish to unnaturally high levels of predation as confirmed during monitoring in 1998.

Expected Project Completion Date: June 30, 2000

**Second and Third Quarter Accomplishments:**

Agreement negotiations with the U.S. Fish and Wildlife Service and the Turlock Irrigation District are in progress.

4) **Project Title:** Tuolumne River Mining Reach Restoration Project  
No. 2 - MJ Ruddy Segment

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$3,332,000 |
| Funds Obligated Through June 30, 1999: | \$0         |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** U.S. Fish and Wildlife Service

**Project Description:** This is a construction project designed to restore the river to a more natural condition. Specifically, the project involves the construction of setback levees to create a 500-foot-wide riparian floodplain corridor. This is part of a 6-mile-long reach that will ultimately be restored to its natural condition. In addition, once the levees are created they will be revegetated to increase the riparian habitat within the corridor. This is the second of four mining reach projects located on a 6-mile stretch of the Tuolumne River.

Expected Project Completion Date: March 2001

**Second and Third Quarter Accomplishments:**

Agreement negotiations with the U.S. Fish and Wildlife Service and the Turlock Irrigation District are in progress.

5) **Project Title:** Liberty Island Acquisition

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$8,577,000 |
| Funds Obligated Through June 30, 1999: | \$8,747,000 |
| Funds Expended Through June 30, 1999:  | \$240       |

**Funding provided to:** U.S. Fish and Wildlife Service on March 20, 1998

**Project Description:** Funding for this project will cover the full acquisition costs for the purchase of Liberty Island, approximately 4,760 acres. The island is strategically located in the north Delta at the southern end of the Yolo Bypass. The acquisition and eventual restoration will provide potential wetland, shaded riverine aquatic, and instream habitat for winter-run chinook salmon, Delta smelt, splittail, and other species.

Expected Project Completion Date: February 1999 (to be extended to October 31, 1999, pending CALFED review and approval)

**Second and Third Quarter Accomplishments:**

Acquisition of the property by the U.S. Fish and Wildlife Service has been delayed to October 31, 1999, to provide additional time to complete the required environmental assessment and public review process. The cooperative agreement between the U.S. Fish and Wildlife Service and The Trust for Public Land has been agreed to in principle. As requested by the U.S. Fish and Wildlife Service, the Bureau of Reclamation is proceeding with an approval request for an additional \$170,000 in land acquisition management and processing costs for this project from the Assistant Secretary for Water and Science.

- 6) **Project Title:** Sedimentation Movement, Availability, and Monitoring in the Delta
- |  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,047,010 |
| Funds Obligated Through June 30, 1999: | \$1,047,010 |
| Funds Expended Through June 30, 1999:  | \$242,800   |

**Funding provided to:** U.S. Geological Survey on March 18, 1998

**Project Description:** The objective of this study involves the analysis of sediment movement in the Delta, both suspended load and bedload. This analysis is necessary in order to determine the availability, quantity, and movement of sediment through the Delta. This study will assist water managers in the evaluation of levee projects, ecosystem restoration efforts, and water quality impacts from contaminated sediment. The project includes the installation of monitoring equipment, collection of data, and development of a final report.

Expected Project Completion Date: September 30, 2000

**Second and Third Quarter Accomplishments:**

The streambed of the Sacramento River was surveyed at low, medium, and high flow during the quarter. An inexpensive video system for observing bed material at depths up to 45 feet was devised and tested. The data collected to date show that sand waves are ubiquitous, that the riverbeds are subject to several meters of scour and fill in response to storm flows, and that bedload can indeed be estimated from bedform movement. Suspended load has not yet been calculated, pending final analysis of water samples and calibration of optical sensors. Preliminary sensor calibration data for the Delta sites were reviewed in the spring of 1999, and calibrations were found to be acceptable, but more high concentration samples will be needed. The qualitative character of the sensor output, however, indicates that suspended-solids concentration in the Delta is less variable than in the Bay during the summer.

As part of the sampling/monitoring effort, the Delta sampling scheme was adjusted to sample every two months during the dry season and every two weeks during the wet



season. Instruments that measure velocity, water depth, conductivity, temperature, and other data in Cache Slough were recovered and repositioned in Delta smelt spawning grounds in early April. The instruments will be recovered in early July.

**Improved Instream Flows:**

|   |                     |
|---|---------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$14,500,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$7,700,000</b>  |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$0</b>          |

1) **Program Title:** Environmental Water Acquisition Program

|  |              |
|--|--------------|
| CALFED Recommended level of funding:   | \$14,450,000 |
| Funds Obligated Through June 30, 1999: | \$7,700,000  |
| Funds Expended Through June 30, 1999:  | \$0          |

**Funding provided to:** Bureau of Reclamation contract with National Fish and Wildlife Foundation signed on September 30, 1998

**Program Description:** The Environmental Water Acquisition Program will be guided by policy principles being developed by the stakeholders through the Ecosystem Roundtable. These principles will focus on fostering local partnerships, ensuring adequate evaluation, avoidance and mitigation of any potential local economic effects, and developing activities which provide the greatest ecosystem benefit relative to cost. The Ecosystem Roundtable is currently in the process of developing these principles. The program will focus on activities to improve instream flows to benefit the priority species in cooperation with the existing Water Acquisition Program operating under the Central Valley Project Improvement Act. Activities under this program can include multi-year water transfers or acquisitions, funding for water use efficiency measures to allow increased instream flows, and funding for foregone power revenues in exchange for increased bypass flows. The Bureau of Reclamation will coordinate this program with CALFED program staff to accomplish the goals of this program.

**Second and Third Quarter Accomplishments:**

The environmental water acquisition program has been established. No water acquisitions were processed during the reporting period. However, a deobligation of \$6.75 million was made to this account to provide a source of funds for high-priority fish and wildlife restoration and enhancement objectives in the Central Valley. Two CALFED recommended pilot study projects will utilize \$5.5 million of this deobligation. A \$2.5 million pilot project will provide for augmented flows on the San Joaquin River during mid-June through October 1999 to promote dispersal and germination of seed from native riparian trees and survival of young trees. Another \$3 million pilot study will be used to acquire 50,000-acre-feet of water from the Oakdale and South San Joaquin Irrigation

Districts on the Stanislaus River for release during the summer of 1999 for high-priority fish and wildlife restoration and enhancement objectives.

- 2) **Project Title:** Environmental Water Acquisition Study
- |  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$50,000 |
| Funds Obligated Through June 30, 1999: | \$0      |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** Bureau of Reclamation

**Project Description:** In order to improve coordination between CALFED and CVPIA water acquisition programs, CALFED will conduct a review of the Water Acquisition Program being implemented under the mandate of Section 3406(b)(3) of the Central Valley Project Improvement Act. The objective of this study is to determine what is needed to develop and implement an effective, coordinated, long-term water acquisition program. The Bureau of Reclamation proposes hiring a consultant to prepare an assessment of the CVPIA Water Acquisition Program. The consultant will interview the CVPIA Water Acquisition Program manager as well as other managers of similar water purchase/transfer programs (similar programs include: the State Drought Water Bank, the State Water Project Supplemental Water Purchase Program, and the Yakima River Basin Water Enhancement Program). The consultant will prepare a comprehensive report detailing their findings from the interviews.

Expected Project Completion date: Not yet determined

**Second and Third Quarter Accomplishments:**

CALFED staff is reconsidering project at this time. Pending their review, the Bureau of Reclamation may perform by using CVPIA funding.

**Water Quality and Temperature Improvement:**

|   |                    |
|---|--------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$8,803,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$5,043,649</b> |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$903,114</b>   |

- 1) **Project Title:** Evaluation of Selenium Sources, Levels, and Consequences in the Delta
- |  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,589,000 |
| Funds Obligated Through June 30, 1999: | \$1,589,000 |
| Funds Expended Through June 30, 1999:  | \$268,168   |

**Funding provided to:** U.S. Geological Survey (USGS) on August 10, 1998

**Project Description:** This 3-year study will provide a quantitative description of the different sources of selenium concentrations in the Bay-Delta; a determination of how

changes in sources may affect selenium tissue concentrations in primary consumers; a linkage of selenium concentrations in primary consumers to uptake by predators; and a direct determination of whether selenium affects reproduction and development in sturgeon. Further, a model will be developed which forecasts outcomes of alternative selenium remediation/restoration strategies, and baseline monitoring data will be developed. This information will be summarized in a final report to CALFED.

Expected Project Completion Date: June 30, 2001

**Second and Third Quarter Accomplishments:**

Analyses are continuing of the data collected during sampling activities in previous quarters. Monthly water sampling at Vernalis and Freeport continues to provide the basis for modeling of selenium concentrations. The primary focus for this quarter was on analyses of water, suspended sediment, sediment cores, and sediment core water, from the October 1998 and April 1999 Delta and Bay samplings.

The program is working on conceptual models for selenium sources, species absorption, transport, and effect. This quarter the USGS began the design of a whole ecosystem food web experiment. This experiment compares selenium concentrations, feeding habits, and selenium bioaccumulation experiments, among as complete a food web as possible, at two locations: a large estuarine location including Grizzly Bay and the head of San Pablo Bay; and Mildred's Island in the Delta.

2) **Project Title:** Assessment of Organic Matter in the Habitat and Its Relationship to the Food Chain

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,400,000 |
| Funds Obligated Through June 30, 1999: | \$1,440,649 |
| Funds Expended Through June 30, 1999:  | \$413,842   |

**Funding provided to:** U.S. Geological Survey (USGS) on March 20, 1998

**Project Description:** This project is a research proposal for a comprehensive assessment of the production, import, utilization, and export of the organic matter that serves as food resources for fish in their early life stages. Lower phytoplankton ecosystem functions potentially limit fish population growth in the Delta. The project will benefit multiple-fish species. First year of funding was recommended (total estimated project cost is \$1,400,000 for a 3-year project).

Expected Project Completion Date: March, 31, 2002

**Second and Third Quarter Accomplishments:**

USGS Successfully completed a multiple-site Delta evaluation trip this quarter. Sampling sites this quarter included: Cutoff Slough (north of Grizzly Bay), Prospect Slough (southern extension of the Yolo-Bypass), Sacramento River at Freeport, San Joaquin River at Mossdale, San Joaquin River at Twitchell Island, Little Holland Tract, Sacramento

River at Rio Vista, Clifton Court Intake, Franks Tract, Mildred Island, and X2. In addition, a 5-day study was undertaken to characterize the water quality constituents (chlorophyll, turbidity, dissolved organic carbon, conductivity, temperature, dissolved oxygen, and dissolved inorganic nitrogen) in two of the Delta's shallow lakes: Mildred Island and Franks Tract. University of California, Davis, participated in a May 1999 sampling trip and, independently, conducted zooplankton growth experiments. They are analyzing the data in preparation for a group meeting in September 1999. Finally, as requested by the U.S. Geological Survey, the Bureau of Reclamation is in the process of requesting approval of an additional \$40,649 in funds for this project from the Assistant Secretary for Water and Science

3) **Project Title:** Bacterial Treatment of Selenium in the Panoche Drainage

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,149,000 |
| Funds Obligated Through June 30, 1999: | \$1,149,000 |
| Funds Expended Through June 30, 1999:  | \$165,293   |

**Funding provided to:** Bureau of Reclamation contract with University of California, Berkeley, signed on September 24, 1998

**Project Description:** The Algal-Bacterial Selenium Removal Demonstration Facility has been operating for a year in the Panoche Drainage District near Firebaugh. The facility consists of two identical systems in which algae are grown, harvested, and then used as a bacterial substrate for selenium reduction from subsurface agricultural drainage water. Funding of this project will allow the continued operation of the facility for three years. Funding will be provided to the University of California, Berkeley (Lawrence Berkeley Laboratory) for accomplishment of this task.

Expected Project Completion Date: September 30, 2001

**Second and Third Quarter Accomplishments:**

The mode 1 Algal-Bacterial Selenium Removal (ABBR.) system flow has been maintained at 4,600 gallons per day. The mode 2 ABBR. has performed well since the flow was increased to the design flow of 10,000 gallons per day in January. To further test the limits of the system, the flow treated by the mode 2 system was increased to 12,500 gallons per day on June 29, 1999. Algal and bacterial substrates and nutrients are regularly delivered to the site and added to the appropriate reactors within the ABBR. facility. The carbon dioxide flow to the mode 1 system was increased on April 15, 1999, and again on May 17, 1999, to determine the effect on algae growth and nitrate removal. Weekly sampling and analysis of the influent and effluent of each pond are continuing. Evaluation of supplementary substrates for use in the ABBR. process continues. Technology transfer and public information continues to occur with key words for the project web site being registered so that search engines will be able to directly locate the site.

4) **Project Title:** Sand and Salt Creek Watershed Project

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$599,000 |
| Funds Obligated Through June 30, 1999: | \$599,000 |
| Funds Expended Through June 30, 1999:  | \$39,744  |

**Funding provided to:** Bureau of Reclamation contract with Colusa County Resource Conservation District signed on June 24, 1998

**Project Description:** This watershed management project will 1) develop a resource management plan that includes conservation practices, monitoring, education, water quality, and water conservation management goals at 20 sites; 2) monitor six selected sites in order to determine effectiveness of the developed plan; 3) develop public/ educational workshops and tours to show landowners how to implement the watershed management plans to reduce surface runoff containing pesticide residues and sediments; and 4) construct grade stabilization structures to decrease erosion within the watershed.

Expected Project Completion Date: December 31, 1999

**Second and Third Quarter Accomplishments:**

Held steering committee meeting and developed monitoring protocol and memorandums of understanding with Colusa Department of Public Works, California Association for Family Farmers, Colusa Basin Drainage District, and Ducks Unlimited. The contractor began collection of baseline data for the management plan, surveyed potential project monitoring sites, and selected six monitoring sites in order to determine effectiveness of the management plan once it is developed. In addition, staff attended training seminars for use in project management.

5) **Project Title:** Integrated Pest Management in Suisun Bay Program

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$266,000 |
| Funds Obligated Through June 30, 1999: | \$266,000 |
| Funds Expended Through June 30, 1999:  | \$16,067  |

**Funding provided to:** Bureau of Reclamation contract with Central Contra Costa Sanitary District signed on September 9, 1998

**Project Description:** This project builds on an existing pilot project to educate the public and change their behavior regarding urban pesticide use to move toward the use of non-chemical pesticides (i.e., integrated pest management). This program, located in the Delta near Suisun Bay and contracted with the Central Contra Costa Sanitary District, seeks to change the behavior of the general community through public awareness of the effects of pesticides misuse with emphasis on nonchemical methods to keep pests at acceptable low levels.

Expected Project Completion Date: August 31, 2001

**Second and Third Quarter Accomplishments:**

Continued coordination and implementation of the integrated pest management strategy by the production and distribution of promotional materials on the program to regional agencies and business, updated the product listing of less-environmentally toxic pesticide products to be stocked by participating stores, produced store employee training notebooks, trained employees of Central Contra Costa Sanitation District's 13 participating stores about less-toxic pest control, developed and revised fact sheets on pesticide management topics, and developed, publicized and held public workshops on less-toxic pest control. A training video was scripted and filmed which will be used within central Contra Costa to train businesses and employees about alternatives to pesticides use. Finally, advanced training sessions were held for Master Gardeners to educate them about less-toxic gardening with follow-up on public workshops led by the Master Gardeners to share the gardening techniques that they had learned.

- 6) **Program Title:** Assessment of Ecological and Human Health Impacts of Mercury in the Bay-Delta Watershed
- |  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$3,800,000 |
| Funds Obligated Through June 30, 1999: | \$0         |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** Bureau of Reclamation

**Program Description:** This funding is for the purpose of completing a series of detailed scientific studies to quantify, assess, and evaluate existing mercury levels. It is critical to the success of future restoration activities that there is a better understanding of information that will lead to the reduction of mercury in resident fish tissues to levels that are not harmful to humans or wildlife. In order to ensure that ecosystem restoration activities do not contribute to a human health risk from mercury contamination, studies need to be undertaken to better understand:

- The most bioavailable source of mercury in the watersheds.
- Where the most active methylation is occurring downstream.
- Existing levels of mercury in sport fish to better evaluate the potential human health risk.
- Whether mercury levels are high enough to affect birds in the Delta.
- How mercury mines and mercury in contaminated sediments can be better managed.

The objective of all of these studies is to provide data that will lead to a reduction of mercury in resident Delta fish to levels that are not harmful to humans and wildlife.

Expected Project Completion Date: July 2002

**Second and Third Quarter Accomplishments:**

Contract negotiations with the California State University, San Jose, are in progress.

**Introduced and Undesirable Species Control:**

|   |                    |
|---|--------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$1,250,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$1,250,000</b> |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$0</b>         |

1) **Program Title:** Exotic Species Control Program

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,250,000 |
| Funds Obligated Through June 30, 1999: | \$1,250,000 |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** U.S. Fish and Wildlife Service on August 13, 1998

**Program Description:** This program will identify and implement measures to prevent additional introduction of exotic, nonnative aquatic species by developing an overall strategy which seeks to control various sources of introductions such as ballast water and intentional introductions of exotic species. The program may also identify specific needs to control previously introduced species if experts can identify effective remedial control measures. The U.S. Fish and Wildlife Service will work with CALFED program staff to develop this program.

Expected Project Completion Date: September 30, 2000

**Second and Third Quarter Accomplishments:**

Draft Strategic Plan for non-native invasive species has been reviewed by CALFED committees and stakeholders. Work continues on the draft Implementation Plan which will be submitted to CALFED by August 31, 1999. Work teams have developed criteria and priorities for implementation and have developed a draft package of recommended directed projects to fund totaling \$884,012. These projects were formally submitted for CALFED approval in May 1999. Staff members on this program also provided technical review expertise for nonnative invasive species projects submitted to CALFED as part of the FY 1999 proposal solicitation package.

**Improved Fish Management and Hatchery Operations:**

|   |                  |
|---|------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$625,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$625,000</b> |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$35,084</b>  |

1) **Project Title:** Evaluation of Tagging Data

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$625,000 |
| Funds Obligated Through June 30, 1999: | \$625,000 |
| Funds Expended Through June 30, 1999:  | \$35,084  |

**Funding provided to:** Bureau of Reclamation contract with Northwest Marine Technology, Inc., signed on August 20, 1998

**Project Description:** This project consists of two integrated components. The first component will evaluate existing coded wire tag and recovery data from the Central Valley, look at hatchery produced salmon contribution toward commercial and recreational harvest, and develop parameters associated with constant fractional or mass marking programs for fish harvest. The first component will result in a series of reports provided to the Bureau of Reclamation by the consultants. The second component will demonstrate the feasibility of marking large numbers of fish for release into Central Valley waters. Increasing the tagging levels will provide a much greater definition of juvenile salmon inland distribution, migration rates, growth rates, and origin of fish captured. The Bureau of Reclamation will work with Northwest Marine Technology, Inc., and the California Department of Fish and Game to accomplish the project goals.

**Expected Project Completion Date:** December 31, 2000

**Second and Third Quarter Accomplishments:**

Task 1 of this contract is to evaluate increasing tagging levels of chinook salmon and steelhead fish. The collection of historical information on juvenile fish releases and adult recovery has been accomplished. However, this process took longer than anticipated because information contained in data bases maintained by the Pacific States Marine Fisheries, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game was not useable for this study until inaccurate data entries were corrected. With this accomplished, evaluation reports are in progress and are expected to be issued in August 1999.

Task 2 of this contract is to mark and tag 5 million fish to demonstrate a new mass marking machine. As reported last quarter, a prototype marking machine has been completed and is being tested in Northern Washington. However, this machine still lacks an automated fish sorter which is necessary to presort the juvenile fish. Development of prototype sorters is underway with the projected use of the machine to sort and tag 5 million fish during CY 2000.



**Watershed Management:**

|   |                    |
|---|--------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$4,198,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$2,253,000</b> |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$140,583</b>   |

1) **Project Title:** Butte Creek Watershed Restoration Implementation

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$294,000 |
| Funds Obligated Through June 30, 1999: | \$294,000 |
| Funds Expended Through June 30, 1999:  | \$19,223  |

**Funding provided to:** U.S. Fish and Wildlife Service on September 13, 1998

**Project Description:** This is a watershed planning, outreach, and restoration project to be implemented by the Butte Creek Watershed Conservancy. This project will include watershed planning, an education program, an evaluation of the geomorphology of upper Butte Creek canyon, and a road survey in the watershed to identify erosion control sites and potential future erosion control needs. The U.S. Fish and Wildlife Service is working with California State University, Chico, and the Butte Creek Watershed Conservancy to develop this project.

Expected Project Completion Date: September 30, 1999

**Second and Third Quarter Accomplishments:**

Base maps, air photos, stream gauging records, historic maps, and other records have been collected that will become available for use in the California State University, State Archives, and U.S. Fish and Wildlife Service's offices as historical references for the interested parties in Butte Creek Watershed management. Analysis has begun on this data to reflect changes in the historic stream bed and ongoing processes of stream bed change. Preparing preliminary draft report of historic stream bed changes over time for peer review. In addition to day-to-day activities, a quarterly conservancy newsletter has been developed and the program has assisted in the coordination of both an educational series and a stakeholder appreciation event. Also, the Watershed Advisory Committee is working towards the completion of an Existing Conditions Report and a Watershed Management Strategy Report. On the education portion of the project, teachers have begun taking their classes on field trips to various sites, and presentations have been made to various groups this quarter. Finally, project staff have continued to collect data for the watershed road and fluvial geomorphology surveys.

- 2) **Project Title:** Inventory of Forest Road Systems at Cat Creek Watershed
- |  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$38,000 |
| Funds Obligated Through June 30, 1999: | \$38,000 |
| Funds Expended Through March 31, 1999: | \$0      |

**Funding provided to:** U.S. Forest Service on August 6, 1998

**Project Description:** An interdisciplinary team will develop and review the forest road system within the Cat Creek watershed in El Dorado County. The objective is to provide decision makers with recommendations about which roads to repair, relocate, gate, or decommission. The process developed by this team would be used to review the entire forest road system within the Cosumnes River Basin in the El Dorado National Forest. Roads are the principal cause of accelerated erosion in forests in the western United States; this project will ultimately improve riparian resources and aquatic habitat by removing sources of sedimentation.

Expected Project Completion Date: September 30, 1999

**Second and Third Quarter Accomplishments:**

The Forest Service is continuing to update the Geographic Information System (GIS) road layer for this watershed. The interdisciplinary team for this project has been chosen and work continues to progress. The initial framework for the methodology that the U.S. Forest Service is developing is near completion. A public meeting to discuss the methodology and receive public input is planned for early September 1999.

- 3) **Project Title:** Improvement/Sediment Stabilization on Deer, Mill, and Antelope Creeks  
(Lassen National Forest)

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$371,000 |
| Funds Obligated Through June 30, 1999: | \$371,000 |
| Funds Expended Through June 30, 1999:  | \$121,360 |

**Funding provided to:** U.S. Forest Service on March 16, 1998

**Project Description:** There are three components of this project 1) implementation of erosion control measures, 2) planning for future road related erosion control measures, and 3) identification of private land acquisition/exchange of areas with high erosion potential. The objective of this project is to reduce the generation of fine sediment from upland, riparian, and road related sources in three watersheds utilized by spring-run salmon and steelhead in Lassen National Forest. Item one described above actually involves the treatment of approximately 20 landings and 3 miles of road that will be removed and revegetated.

Expected Project Completion Date: December 31, 2000

**Second and Third Quarter Accomplishments:**

All prospective sites have been identified, site visits have been completed, interdisciplinary treatments have been developed, and design work is nearly complete. In the NEPA process, the decision memo is complete, supporting documentation has been compiled, public scoping is complete, and consultations are complete. One half mile of road removal has been completed in the Antelope Creek watershed. Consultation with National Marine Fisheries Service has been completed and projects have been approved for implementation. The Forest Service has completed a non-routine road maintenance and construction activities biological assessment. National Marine Fisheries Service has rendered an opinion that the types of projects analyzed are not likely to jeopardize the continued existence of chinook salmon and steelhead trout. Work continues on updating the GIS files and data bases as they relate to erosion site identification. Work on best management practices for concurrent monitoring will be completed immediately following implementation.

4) **Project Title:** Floodplain Easements - Lower Tuolumne and San Joaquin Rivers

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,545,000 |
| Funds Obligated Through June 30, 1999: | \$0         |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** Natural Resources Conservation Service

**Project Description:** CALFED is being given the unique opportunity to participate in the USDA Emergency Watershed Protection Program which will allow significant progress toward ecosystem restoration goals while achieving multiple CALFED benefits. This program will convert approximately 1,200 acres of previously cultivated farmland to seasonal wetlands and shaded riverine aquatic habitat through conservation easements. This land use change will provide benefits to important terrestrial and aquatic species including improved habitat, reduced water temperature and stream velocity, and improved food resources for migrating and rearing salmonids. In addition, this program will provide important flood control benefits including reduced public risk due to flood damages and increased protection of lives and property.

Expected Project Completion Date: June 30, 2000

**Second and Third Quarter Accomplishments:**

Contracting package has been developed and is awaiting procurement contracting action.

5) **Program Title:** Watershed Restoration Planning and Implementation Program

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,950,000 |
| Funds Obligated Through June 30, 1999: | \$1,550,000 |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** U.S. Environmental Protection Agency on August 25, 1998

**Program Description:** This program is designed to promote locally-led efforts to develop comprehensive watershed restoration plans for key tributaries of the Central Valley and Bay-Delta Watershed. This program will fund the development and implementation of restoration projects or plans by new or existing local watershed groups. Specifically, EPA will provide draft materials for a public solicitation package to be issued by CALFED. This material will include a written description of the types of proposals being solicited, the process to be used to develop proposals with project proponents, and the criteria and the process to be used in evaluating the proposals. Further, EPA will coordinate the evaluation of proposed projects and assist in making funding recommendations to CALFED work groups for their consideration. To promote watershed stewardship throughout the ecosystem and to support an increased understanding of the linkages with the upper watershed, the geographic scope of this watershed program will include the upper watershed and the local watersheds below the Delta. Efforts under this program will be coordinated through the CALFED Watershed Management Program. An additional \$145,000 in funding for Technical Review of this project is included in the Technical Review and Quality Control Program.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:** Management and coordination of the watershed solicitation and award process continued. Specifically, 11 recipient agreements for watershed stewardship programs were signed this quarter, while negotiations and contract work continued on the balance of the proposed projects. In addition, contract administration work continued on task order and deliverable development, proper accounting, cost screening, and compliance with applicable regulations. Agreement negotiations are currently ongoing with three project proponents as follows -

**Projects under Solicitation**

| <b>Project</b>                                     | <b>Recommended Funding Level</b> | <b>Funding Recipient (Project proponent)</b>         |
|--|----------------------------------|--|
| Battle Creek Watershed Stewardship                 | 107,000                          | Battle Creek Watershed Conservancy                   |
| Cold Water Fisheries and Water Quality Element     | 147,000                          | City of San Jose Services Department                 |
| Lower Putah Creek Watershed Stewardship Program    | 76,000                           | Solano County Department of Environmental Management |
| Watershed Restoration Strategy for the Yolo Bypass | 180,000                          | Yolo Basin Foundation, Inc.                          |
| <b>TOTAL PENDING AGREEMENT</b>                     | <b>\$510,000</b>                 |  |

- A) **Project Title:** Local Watershed Stewardship:  
Steelhead Trout Plan  
CALFED Recommended level of funding: \$38,000

**Funding provided through:** U.S. Environmental Protection Agency to Friends of Corte Madera Creek Watershed signed on April 2, 1999

**Project Description:** The purpose of this project is to develop a steelhead trout recovery plan. The plan is one component of a comprehensive watershed plan to improve water quality, fishery resources, and native vegetation and wildlife in the Corte Madera Creek Watershed. The plan will identify the factors limiting the steelhead trout population, formulate corrective actions, and describe how to monitor the success of those actions once implemented.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Review of historical information has begun. A draft quality assurance/quality control plan has been developed and 29 thermographs were installed in April 1999. New locations will be selected as seasonal flows change, however, the number of thermographs installed will decline over the summer months.

- B) **Project Title:** Proposal to Develop Local Watershed

Stewardship Plan for the Lower  
Mokelumne River  
CALFED Recommended level of funding: \$118,000

**Funding provided through:** U.S. Environmental Protection Agency to San Joaquin County Resource Conservation District signed on April 8, 1999

**Project Description:** The overall objective of this three year watershed program is to 1) develop and implement a community-based Watershed Stewardship Plan; 2) develop and implement an Environmental Farm Program with the vineyard owners in the Lodi-Woodbridge Winegrape Commission; and 3) expand biological monitoring within the lower Mokelumne watershed to include neotropical land birds.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

A watershed coordinator has overseen the preparation of a quality assessment/quality control report for the Neotropical Migratory Bird Monitoring component of the project and prepared a similar draft report of the watershed planning effort. Development of an Environmental Farm Plan is approximately one-third complete.

- C) **Project Title:** Alhambra Creek Watershed CRMP Project  
CALFED Recommended level of funding: \$104,000

**Funding provided through:** U.S. Environmental Protection Agency to Contra Costa Resource Conservation District on April 8, 1999

**Project Description:** This project will develop a watershed management plan using the Coordinated Resource Management Planning process. This will require local participation, consensus decision making, and voluntary implementation of the plan. It is anticipated that Best Management Practices will be incorporated into the Watershed Management Plan.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

A time line is being developed for the tasks involved in completing a Resource Management Plan. Monthly meetings are being held between staff and stakeholders and the watershed coordinator is preparing and distributing meeting agendas and recording and distributing minutes of the meetings. Work on GIS mapping analysis has commenced. A logo contest was held in the community for the watershed committee to increase the committee's visibility and the level of the community involvement in the watershed planning process.

- D) **Project Title:** Cottonwood Creek Watershed Group

Formation  
CALFED Recommended level of funding: \$119,000

**Funding provided through:** U.S. Environmental Protection Agency to Cottonwood Creek Watershed Group signed on May 11, 1999

**Project Description:** This project will support a watershed group comprised of local landowners, public land managers, resource managers, and interested parties to address the entire watershed and develop a plan to evaluate and make recommendations for watershed stewardship. Specific watershed issues include timber harvest, land use, fire and fire suppression, erosion reducing oak woodland management, riparian zone maintenance, and providing for sustained runoff patterns in the upper watershed area.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

The project is in the beginning startup and information evaluation phase. Planning has commenced on watershed planning for the Cottonwood Creek area.

E) **Project Title:** Merced River Corridor Restoration Plan  
CALFED Recommended level of funding: \$220,000

**Funding provided through:** U.S. Environmental Protection Agency to Stillwater Sciences and Merced County Planning and Community Development Department signed on May 26, 1999

**Project Description:** This project will develop a Restoration Plan for the Merced River Corridor through public meetings, technical evaluations, GIS analyses, and development of quality assurance and monitoring plans.

Expected Project Completion Date: September 30, 1999

**Second and Third Quarter Accomplishments:**

Initial stakeholder meetings were held in the third quarter. In addition, the identification of social, institutional, and infrastructural conditions has commenced, and staff planning has begun.

F) **Project Title:** Union School Slough Watershed  
Improvement Project  
CALFED Recommended level of funding: \$304,000

**Funding provided through:** U.S. Environmental Protection Agency to the National Audubon Society, California Chapter signed on May 25, 1999

**Project Description:** This project is designed to improve seasonal wetland and aquatic, instream aquatic, and shaded riverine aquatic habitats. This will be accomplished, in part, by the establishment of a stewardship group, creation of an

ongoing restoration and vegetation management service, and the production and dissemination of educational materials to the public.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Staff have developed a listing of potential Technical Advisory Committee members, compiled a listing of potential cost share providers, presented an introduction of the project to the Yolo County Board of Supervisors, and attended various workshops and conferences related to the program. Further, work has begun on upper watershed riparian and rangeland restoration with the preparation of a draft implementation and monitoring plan and began permitting process for lower watershed riparian restoration project.

- G) **Project Title:** Sulfur Creek Coordinated Resource  
Management Planning Group  
CALFED Recommended level of funding: \$20,000

**Funding provided through:** U.S. Environmental Protection Agency to Sacramento Watershed Action Group signed on May 13, 1999

**Project Description:** This project will allow for continuing efforts to distribute watershed information and develop community based restoration objectives. In addition, the Group will pursue funding to implement projects identified in the watershed analysis as part of the Coordinated Resource Management Plan. The Group provides for public informational exchange and public relations opportunities to heighten public awareness in the Sulphur Creek watershed resource issues, facilitate public participation, and encourage stewardship of the watershed.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Staff have developed and circulated educational brochures about Sulphur Creek, held public meetings, attended proposed subdivision planning meetings and site inspection tours, and designed a format for future newsletters.

- H) **Project Title:** Petaluma River Watershed Restoration Project  
CALFED Recommended level of funding: \$162,000

**Funding provided through:** U.S. Environmental Protection Agency to Southern Sonoma County Resource Conservation District signed on May 13, 1999

**Project Description:** The objective of this project is to restore and enhance shaded riverine aquatic and instream aquatic habitat. This will occur through support of the Petaluma River Watershed Enhancement Plan to orchestrate watershed restoration, monitoring, and assessment projects; implement hydrologic



and geomorphologic watershed resource assessments; and facilitate local efforts to restore the Petaluma River. With reduced sedimentation and cooler water temperatures, existing fish and wildlife habitat will be improved, which will help curtail further species degradation.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

Outreach with various landowners and interest groups in the watershed has been initiated, which led to a review of projects currently underway in the Petaluma River watershed and resulted in planning for potential future projects. A review of a Lynch Creek project with the owner resulted in several solutions to watershed impacts, with the most reasonable and cost effective approach found mutually acceptable.

XIV) **Project Title:** South Yuba River Coordinated Watershed  
Management Plan

CALFED Recommended level of funding: \$193,000

**Funding provided through:** U.S. Environmental Protection Agency to the California Department of Parks and Recreation signed on May 19, 1999

**Project Description:** The overall objective of this project is to develop a Resource Management Plan for the South Yuba River watershed. This work will be conducted in four phases, which are 1) data gathering, 2) management plan development, 3) plan implementation, and 4) project monitoring.

Expected Project Completion Date: September 30, 2002

**Second and Third Quarter Accomplishments:**

A memorandum of understanding, a final work plan, and a final contract for this effort have been accepted and agreed to by the California Department of Parks and Recreation, the Bureau of Land Management, and the U.S. Forest Service.

J) **Project Title:** American River Integrated Watershed  
Stewardship Strategy

CALFED Recommended level of funding: \$162,000

**Funding provided through:** U.S. Environmental Protection Agency to Placer County Resource Conservation District signed on June 8, 1999

**Project Description:** An Integrated Watershed Management Plan and Stewardship Strategy will be developed for the American River. This project will include 1) collecting relevant biophysical, social, economic, and institutional data; 2) preparing a report integrating the data; 3) developing a draft Integrated Watershed Management Plan and Stewardship Strategy; 4) developing a pilot stewardship plan on two sites to test and develop the coordinated watershed

management plan stewardship programs; and 5) evaluating the overall project with a final report to CALFED.

Expected Project Completion Date: September 30, 1999

**Second and Third Quarter Accomplishments:**

Initial project startup is in progress.

**Monitoring, Permit Coordination, and Other Special Support Programs:**

|   |                    |
|---|--------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$9,556,000</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$5,799,846</b> |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$1,948,889</b> |

1) **Project Title:** Integrated Phasing Strategy

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$2,947,000 |
| Funds Obligated Through June 30, 1999: | \$1,573,444 |
| Funds Expended Through June 30, 1999:  | \$1,292,967 |

**Funding provided through:** Bureau of Reclamation to CALFED Bay-Delta Program based on agreement signed May 17, 1995

**Project Description:** In order to restore the Bay-Delta ecosystem using adaptive management, a logical set of priorities must be established based on the current understanding of the system. Actions need to be selected to address these priorities and the results of these actions need to be evaluated to refine priorities in future years. The Ecosystem Restoration Program Plan (ERPP) is the “common element” to all alternatives being considered in the Programmatic EIS. A strategy for phased implementation of the ERPP needs to be developed to lay out these priorities and identify the near-term restoration actions required to address them. The strategy for phased implementation of ecosystem restoration activities is described in the ERPP, is essential to the conservation strategy being developed to comply with the Endangered Species Act, and forms the basis for setting funding priorities for near-term restoration in the guidance document. The phased implementation strategy will require technical input on three levels including:

- a) additional technical assistance at the staff level;
- b) establishment of a standing science panel composed of independent scientists and local stakeholder, agency, and independent specialists; and
- c) establishment of a panel of scientists (without local stakeholder, agency, or other independent specialists identified above).

**Second and Third Quarter Accomplishments:**

The Multi-species Conservation Strategy (MSCS) team finalized the evaluation of CALFED's programmatic actions and completed the development of conservation measures for the 243 evaluated species. Most of the third quarter was spent writing and

reviewing the MSCS which was submitted as an appendix to the CALFED Bay-Delta Program's Draft Programmatic EIS/EIR on June 1, 1999. The team has begun evaluating the suite of actions which will be implemented during the first seven years of the program. Project descriptions for the "bundles" are being developed and the actions will be incorporated into Action Specific Implementation Plans.

2) **Project Title:** Coordinated Permitting

|                                       |           |
|---------------------------------------|-----------|
| CALFED Recommended level of funding:  | \$482,000 |
| Funds Obligated Through June 30, 1999 | \$385,505 |
| Funds Expended Through June 30, 1999  | \$53,303  |

**Funding provided through:** Bureau of Reclamation to CALFED Bay-Delta Program based on agreement signed May 17, 1995

**Project Description:** Facilitation of timely review and necessary action on permits will be required for implementation of near-term ecosystem restoration projects. This effort will also lay the groundwork for a coordinated approach on permit coordination for the eventual implementation of the CALFED Bay-Delta Program.

**Second and Third Quarter Accomplishments:**

Completed additional analysis for the Draft EIS/EIR based on a new/revised information and modeling results since the March 1998 Draft EIS/EIR. This information was used to rewrite the sections of the Draft EIS/EIR and to define and evaluate a Preferred Program Alternative. The format of the Draft EIS/EIR was revised for easier reading and better display of the analysis. A draft document was produced and circulated for agency review. The agency comments were reviewed, and a meeting was held with agency representatives to further clarify comments and concerns. Revisions were then made to the Draft EIS/EIR to respond to the agency comments. The entire document was edited to make the appropriate changes and formatted for final review. An internal review was completed, and all final edits and formatting needs were identified.

3) **Program Title:** Development of a Watershed Management Program

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$394,000 |
| Funds Obligated Through June 30, 1999: | \$285,325 |
| Funds Expended Through June 30, 1999:  | \$138,697 |

**Funding provided through:** Bureau of Reclamation to CALFED Bay-Delta Program based on agreement signed on May 17, 1995

**Project Description:** Development of successful and durable solutions to complex water quality problems which affect environmental resources are best approached from the perspective of an entire watershed. Through this watershed management approach, local pollution prevention and control activities are coordinated with similar activities to enable a concerted effort to alleviate ecosystem and water quality problems. Coordination of these efforts also results in the exchange of information, sharing of experiences, and development of more efficient solutions.

**Second and Third Quarter Accomplishments:**

Under Task 1, CALFED completed and released revised Watershed program plan. This document was issued as an appendix to the recently issued Revised Draft EIS/EIR. Under Task 2, CALFED provided staff support for and conducted monthly meetings of an interagency workgroup and a watershed stakeholder group. The purpose of these meetings is to gather information and advice regarding the development of the Watershed Program plan. CALFED conducted three stakeholder meetings during this reporting period. These meetings were attended by a variety of stakeholders from throughout the Bay-Delta region and its watershed. Four interagency meetings were conducted during this reporting period. Eight different CALFED agencies are represented on this interagency advisory team. Under Task 3, CALFED continued with the development of the implementation framework for the Watershed program. Preliminary description of governing structure for the program, a preliminary list of early implementation actions, desired outcomes, and program priorities were completed..

4) **Program Title:** Comprehensive Monitoring Assessments and Research Program (CMARP)

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,447,000 |
| Funds Obligated Through June 30, 1999: | \$1,373,700 |
| Funds Expended Through June 30, 1999:  | \$395,934   |

**Funding provided through:** Bureau of Reclamation to U.S. Geological Survey and CALFED Bay-Delta Program on September 21, 1998

**Project Description:** The Interagency Ecological Program and the San Francisco Estuary Institute will work with the CALFED program staff and stakeholders to develop CMARP for the Bay-Delta and its watershed. CMARP will include a structure and process for integrated data management, data analysis, and reporting. Monitoring elements for near-

term ecosystem restoration need to be integrated with CMARP so that restoration proposals contain monitoring elements to determine whether stated objectives have been met and to provide guidance for assessing future restoration needs. This special support program will fund a portion of a system which does the following: reviews monitoring, assessment, and reporting plans prior to implementation; standardizes data collection methodology, format, and storage; and reviews, evaluates, and circulates results to all interested parties. In our January 16, 1998, request, funding was approved to develop the basic framework which is now in draft form. This funding will be used to begin implementation of CMARP once the framework is complete. CMARP will incorporate data from the Interagency Ecological Program, the Central Valley Project, the Comprehensive Assessment Monitoring Program, and data provided by the San Francisco Estuary Institute. CMARP will include a structure and process for integrated data management, data analysis, and reporting. Monitoring elements for near-term ecosystem restoration need to be integrated with CMARP so that restoration proposals contain monitoring elements to determine whether stated objectives have been met and to provide guidance for assessing future restoration needs. Funding recipients include the Bureau of Reclamation, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the CALFED program staff.

**Second and Third Quarter Accomplishments:**

The CMARP Steering Committee wrote and reviewed two drafts of the CMARP summary report, "Recommendations for the Implementation and Continued Refinement of a Comprehensive Monitoring, Assessment and Research Program." On January 15, 1999, the final draft of the report was sent to CALFED agencies, stakeholders, and the public for review and comment. Copies of the technical appendices were made available for review and comment through the World Wide Web. Comments received were reviewed and many were incorporated by the Steering Committee into the final report. On March 10, 1999, the final report was delivered to CALFED agencies and other interested persons and agencies. CALFED staff also chaired the Category III Monitoring Assessment and Reporting Workgroup, provided facilitation of the workgroup processes, and acted as liaison with CALFED management, staff, and stakeholders in the development of draft and final documents.

A Science Conference and Water Quality Workshop are being developed, as well as development of "white papers" that provide the rationale for implementation of actions and specified monitoring and research elements in support of the CALFED programs. During the quarter, CMARP has also been proceeding with developing specific monitoring plans for Stage 1A actions and the South Delta Program bundle.

5) **Title:** Bay-Delta Education Program

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$420,000 |
| Funds Obligated Through June 30, 1999: | \$385,172 |
| Funds Expended Through June 30, 1999:  | \$67,988  |

**Funding provided to:** Bureau of Reclamation

**Description:** Building public understanding of efforts to restore the Bay-Delta ecosystem is critical to the success of the CALFED program. This project is a broad based education outreach program targeted toward citizens, journalists, decision makers, teachers, and students to increase their understanding of the CALFED Bay-Delta Program. Many of the concepts in habitat restoration are new and innovative, and there is a need to increase public understanding to increase acceptance and facilitate implementation. This program will include a number of contracts that provide support for increased public understanding through educational workshops, tours of the Bay-Delta region for journalists, field trips for adults and students, slide show productions for the public, regional ecology flier development and distribution, and conferences.

**Second and Third Quarter Accomplishments:** Awarded one contract for overall Bay-Delta ecosystem education management and ten contracts for education programs. These programs include journalism tours, slide show presentations, films on Bay-Delta ecosystem development, and workshops on watershed impacts on the Bay-Delta ecosystem. The status of these projects is discussed below.

A) **Program Title:** Education Projects under Solicitation

|  |         |
|--|---------|
| CALFED Recommended level of funding:   | \$3,000 |
| Funds Obligated Through June 30, 1999: | \$0     |
| Funds Expended Through June 30, 1999:  | \$0     |

| Project   | Award Status | Recommended Funding Level | Funding Recipient (Project proponent)  |
|---|--------------|---------------------------|--|
| San Joaquin Valley's "Salmonids in the Classroom" Program Enhancement | Pending      | \$3,000                   | California Department of Fish and Game |
| <b>TOTAL FUNDING LEVEL OF PENDING AGREEMENTS</b>                      |              | <b>\$3,000</b>            |  |

Funding in the amount of \$34,007 remains available and uncommitted for additional education program projects and activities.

B) **Project Title:** Traveling Film Festival/Heron Booth

Video Archive

|  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$54,000 |
| Funds Obligated Through June 30, 1999: | \$54,000 |
| Funds Expended Through June 30, 1999:  | \$43,902 |

**Funding provided to:** Bureau of Reclamation contract with Independent Documentary Group signed February 22, 1999

**Project Description:** This project will produce and publicize a major six-film environmental festival/exhibit highlighting the Bay-Delta environment at San Francisco's new main library. The premiere will involve screening three films each on two separate days with accompanying speakers introducing/addressing the issues presented. Subsequent screenings/displays will be arranged throughout the Bay Area both before and after the official premiere at the main library.

Expected Project Completion Date: September 30, 1999

**Second and Third Quarter Accomplishments:**

Sneak preview screenings were held at the following three events: Bay Area Environmental Education Resource Fair, North Bay Flyway Festival, and the Resources in Environmental Education Fair. The premiere screenings were held on March 20 and 27, and both the preview and premiere screenings were positively received by audiences. An exhibit has been created and installed in the Wallace Stegner Environmental Center of the San Francisco Library for display from April 1 to July 31, 1999. In addition, seven post premiere showings have occurred throughout the Bay Area, and two more showings are scheduled for the future, providing education opportunities in seven of nine Bay Area counties.

C) **Project Title:** Environmental Agriculture Conferences  
and Field Tours

|  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$28,000 |
| Funds Obligated Through June 30, 1999: | \$28,000 |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** Bureau of Reclamation contract with Committee for Sustainable Agriculture signed on February 25, 1999

**Project Description:** The Committee for Sustainable Agriculture will present two 2-day conferences on current agricultural best management practices focusing on the following topic areas: soil quality and health improvement; topsoil erosion and loss reduction; agriculturally induced sediment mitigation; pesticide, herbicide, and fertilizer runoff reduction; waterway nitrate and ammonia impact reduction; and wildlife habitat diversity conservation and creation.

Project Completed: June 30, 1999

**Second and Third Quarter Accomplishments:**

The two conferences, one entitled “Soil Fertility and Pest Management” and the other “Livestock and Dairy” were held. Approximately 175 people participated in these two events which included field tours to better describe and demonstrate techniques and methods discussed during the conferences. The Committee for Sustainable Agriculture will request reimbursement for the program expenditures incurred in the near future.

D) **Project Title:** Sacramento River Headwaters to the Ocean,  
Public Information and Education

|  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$49,640 |
| Funds Obligated Through June 30, 1999: | \$49,640 |
| Funds Expended Through June 30, 1999:  | \$21,907 |

**Funding provided to:** Bureau of Reclamation contract with Sacramento River Discovery Center signed on April 1, 1999

**Project Description:** The Sacramento River Discovery Center (SRDC) will provide educational information and opportunities in three distinct areas. First, SRDC will expand its high school academy and adult volunteer training program focusing on documentation of bird communities and habitat analysis along the Sacramento River riparian corridor. Second, SRDC will develop a native grass plot for evaluation and propagation purposes to provide plants for revegetation sites in the watershed. Third, SRDC will enhance public involvement by providing access to a 2-acre, native/drought-tolerant plant garden through garden plant propagation, identification, classification, and mapping by students and volunteers.

Expected Project Completion Date: September 30, 2001

**Second and Third Quarter Accomplishments:**

Expansion of the bird monitoring and documentation program occurred during this quarter, with additional student and adult volunteers working on documentation of bird communities and habitat. The grass plot has been planted and documented for growth monitoring. In addition, the garden has been expanded with over 1,000 native plants propagated and sold.

E) **Project Title:** Discover the Flyway

|  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$49,000 |
| Funds Obligated Through June 30, 1999: | \$49,000 |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** Bureau of Reclamation contract with Yolo Basin Foundation signed on April 1, 1999

**Project Description:** In each year of this program 75 teachers, instructing approximately 2,000 students, will gain the skills and knowledge necessary to



incorporate wetland curricula into their annual lesson plans. Teachers will be provided workbooks which will be resource material for planning future wetland field trips. This will involve about 40 field trips involving approximately 300 to 400 parents and will generate 120 volunteer service hours. During the field trips, native plant seedlings will be planted in the Yolo Basin to support restoration efforts and to model active involvement in restoration activities for field trip participants.

Expected Project Completion Date: December 31, 2001

**Second and Third Quarter Accomplishments:**

During this quarter 357 students, 57 parents, and 18 teachers were guided on field trips through Yolo County wetlands. Further, 60 students attended a field day in the wetlands. In addition, approximately 60 people participated in four public field trips to various wetland areas in Yolo County and the Yolo Basin Foundation (YBF) planted 1,000 native grass plugs in wetland areas. Currently YBF is revising the teacher workbooks to incorporate revised and new information, is planning further teacher workshops, and continues to expand the school education program which has doubled to now serve more about 2,000 students a year.

F) **Project Title:** The Butte Creek Watershed Educational  
Workshops and Field Tours Series

|  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$33,000 |
| Funds Obligated Through June 30, 1999: | \$33,000 |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** Bureau of Reclamation contract with California State University, Chico signed on March 15, 1999

**Project Description:** California State University, Chico, (CSUC) will develop a series of 13 workshops and field tours designed to educate the public on watershed issues related to Butte Creek to increase the understanding of the problems facing the watershed. This will be accomplished by multimedia presentations, speakers, and field tours. Field tours will include sites to increase the participants' understanding of watershed ecology, geology, and habitat, as well as the effects of timber harvesting, grazing, road construction and use, reservoir creation, hydroelectric generation, and levee development and maintenance.

Expected Project Completion Date: December 31, 2001

**Second and Third Quarter Accomplishments:**

An advisory committee has been established to plan and coordinate the workshops and field tour series. A newsletter announcing the series and the initial workshop/welcome reception has been mailed to over 2,000 individuals and organizations. The initial workshop/welcome reception is scheduled for July 23, 1999. Public service announcements have been sent to local media to advertise this event.

G) **Project Title:** Bay-Delta Environmental Restoration  
Education Program

|  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$40,000 |
| Funds Obligated Through June 30, 1999: | \$40,000 |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** Bureau of Reclamation contract with Water Education Foundation signed on March 8, 1999

**Project Description:** This project consists of three public education components to help the general public better understand the dynamics of the Bay-Delta and the CALFED Bay-Delta program. These components include developing two educational slide cards for young children, conducting a Bay-Delta tour for writers and journalists, and conducting six workshops for secondary and community college educators.

Expected Project Completion Date: December 31, 2000

**Second and Third Quarter Accomplishments:**

The draft text for the two slide cards, entitled "The Salmon Story" and "Unwelcome Visitors," has been developed and are currently being reviewed by about 30 experts. Comments are being incorporated as appropriate and mock-ups for cards will be reviewed as well. The tour for the media was held on May 15, 1999. Twenty-three reporters were taken on a guided tour of the Bay-Delta with commentary and narration from representatives of the many stakeholder groups. Topics discussed on the tour include soil subsidence, salinity, drinking water quality, and the competing needs for water. The workshops will be held in the fall of 1999. The Water Education Foundation will conduct four workshops for secondary educators and two workshops for community college educators. The workshops will focus on wetlands, watershed education, and water resource management.

- H) **Project Title:** Water Hyacinth Education Program
- |  |         |
|--|---------|
| CALFED Recommended level of funding:   | \$9,598 |
| Funds Obligated Through June 30, 1999: | \$9,598 |
| Funds Expended Through June 30, 1999:  | \$0     |

**Funding provided to:** Bureau of Reclamation contract with Sacramento Regional County Sanitation District signed on April 23, 1999

**Project Description:** This project will distribute educational materials to Delta residents to assist in the long-term control of hyacinth growth in the Delta region. The project will distribute informational flyers through local marinas, boat retailers, bait shops, and government agencies to prevent introduction/reintroduction of hyacinth to state water ways and reservoirs. In addition, the Sacramento Regional County Sanitation District (SRCSD) will work with local nurseries to discourage the production and sale of hyacinth for landscape ponds.  
Expected Project Completion Date: December 31, 2001

**Second and Third Quarter Accomplishments:**

Research and development of an education flyer by Sanitation District staff is nearly complete. Water hyacinth photos have been produced and will be included in the final printed flyer. Stones Lakes Water Hyacinth Control Group are currently reviewing the flyer for comment on content and format. Educational work with marinas, boat retailers, bait shops, government agencies, and nurseries will commence once the flyer has been finalized and printed.

- I) **Project Title:** Water Challenge 2010
- |  |          |
|--|----------|
| CALFED Recommended level of funding:   | \$64,500 |
| Funds Obligated Through June 30, 1999: | \$64,500 |
| Funds Expended Through June 30, 1999:  | \$0      |

**Funding provided to:** Bureau of Reclamation contract with U.S. Army Corps of Engineers on March 4, 1999

**Project Description:** This project will result in the design and construction of an interactive, hands-on exhibit that will travel to venues through California to provide a fast, effective, and enticing way for people to grasp the essential issues behind Bay-Delta ecosystem restoration and other aspects of the CALFED mission. The exhibit will allow visitors to personally manage Sacramento-San Joaquin Delta water for ecosystem restoration and other beneficial uses. Visitors will be challenged to try their hand at apportioning water flowing from a huge tank (representing the total amount of water flowing from the Sierras into the Bay-Delta watershed) into a series of three smaller tanks (representing the water needs of fish and wildlife, cities and industry, and agriculture/food production). As they make

their water allocation decisions, visitors will receive immediate feedback on the consequences of their actions via video monitors that will be built into the exhibit.

Expected Project Completion Date: December 31, 1999

**Second and Third Quarter Accomplishments:**

Stakeholder input has been solicited. Predesign technical studies are underway to finalize an initial design concept, identify any newly available technologies and hardware, and to develop parameters and specifications for the exhibit design, engineering, and content.

J) **Project Title:** Tuolumne River Natural Resources Program

CALFED Recommended level of funding: \$55,255

Funds Obligated Through June 30, 1999: \$55,255

Funds Expended Through June 30, 1999: \$0

**Funding provided to:** Bureau of Reclamation contract with City of Modesto signed on May 3, 1999

**Project Description:** The project addresses the riparian habitat and ecosystems of Tuolumne river by increasing public awareness of local habitat issues and increasing educational opportunities among youth and adults. The project will focus upon individuals residing near the extended river area in Stanislaus County. Specifically, the project has three components, which are the planning and presentation of 55 educational workshops, 12 educational field trips, and 3 overnight camping experiences, for both youth and adults.

Expected Project Completion Date: December 31, 2001

**Second and Third Quarter Accomplishments:**

Oversight committee meetings have been held, and school sites were discussed. Meetings with Modesto Recycling and The Great Valley Museum were held, and curriculum was reviewed. Recruitment and hiring of a Program Supervisor was completed. Program implementation contracts are in process of being signed with sponsor organizations.

6) **Program Title:** CALFED Special Support Programs

CALFED Recommended level of funding: \$1,751,000

Funds Obligated Through June 30, 1999: \$1,176,700

Funds Expended Through June 30, 1999: \$0

**Funding provided through:** Bureau of Reclamation to CALFED Bay-Delta Program based on agreement signed May 17, 1995

**Project Description:** This program has four main components, each of which is identified and described separately.

- The Development of a Geographic Information System (GIS) Program

The primary goal of the GIS effort is to provide access to critical geospatial databases to the primary ERPP actions, and evaluation of potential impacts, including effects of proposed CALFED actions on sensitive species.

- The Levee System Reliability Program related to Suisun Marsh Levees:  
CALFED is in the process of developing information on the costs, benefits, and linkages to CALFED objectives of including the Suisun Marsh's 230 miles of exterior levees in CALFED's Levee System Integrity Program.
- The Water Quality Program:  
The CALFED Water Quality Program strives to address and reduce contaminant effects on the Bay-Delta ecosystem. The Bay-Delta ecosystem and any restored wetlands constructed by the CALFED Ecosystem Restoration Program are affected by the Bay-Delta water quality. Toxicity of surface waters may reduce the productivity of the wetlands or eliminate portions of the food chain. Toxicity reduction is a goal of the ERPP Strategic Plan.
- The Water Transfer Program related to Transfers for Environmental Purposes:  
The program will focus on implementation of water use efficiency measures. Several of the specific tasks requiring completion prior to final Programmatic EIS/EIR, as identified by the CALFED Water Use Efficiency Program, relate to the linkage between conservation and ecosystem health. Additionally, the program is working with CALFED agencies to develop assurances for wildlife refuge water management. Also included within this program are the efforts underway in the Water Transfer Program to develop a framework of actions, policies, and processes that will affect, among other things, the transfer of water for instream flows. CALFED is working to resolve issues such as instream flow transfer tracking, environmental protection in source areas, and rules and guidelines for environmental water transfers.

### **Second and Third Quarter Accomplishments:**

GIS continued to assist the Comprehensive Monitoring, Assessment, and Research Program (CMARP) with its long-term infrastructure plan. Efforts were continued with the Department of Water Resources and the Corps of Engineers' Comprehensive Flood Control Study Team on data sharing and GIS analysis to reduce, consolidate, and share GIS mapping costs. The Levee System Integrity Program continued to develop the long-term Levee Protection Plan by refining levee program implementation actions and developing cost share strategies. Water quality actions were refined and specified as part of the draft EIS/EIR, which was released in June. The Water Transfer Program continued to develop agricultural water efficiency mechanisms and a program for water use efficiency multiple benefits.

7) **Project Title:** Prospect Island Monitoring Project

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$915,000 |
| Funds Obligated Through June 30, 1999: | \$0       |
| Funds Expended Through June 30, 1999:  | \$0       |

**Funding provided to:** U.S. Army Corps of Engineers

**Project Description:** The Prospect Island Monitoring Project is necessary to measure the benefits to a variety of aquatic, avian, and terrestrial species, including threatened and endangered species such as Delta smelt, Sacramento splittail, and Swainson's hawk, which could result from the construction of the Prospect Island Habitat Restoration Project. The Project will restore approximately 1,300 acres of shallow water habitat in the northern Sacramento-San Joaquin Delta, creating shallow water/freshwater emergent marsh, mudflat, shaded riverine aquatic, riparian and upland habitat.

**Second and Third Quarter Accomplishments:**

Agreement negotiations with the U.S. Army Corps of Engineers and the California Department of Water Resources are in progress.

8) **Project Title:** Ecosystem Restoration and Planning

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,200,000 |
| Funds Obligated Through June 30, 1999: | \$620,000   |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** Bureau of Reclamation

**Project Description:** The Ecosystem Restoration Program (ERP), one of the CALFED Common Programs, is strongly driving selection of the preferred alternative, a long-term comprehensive plan to restore ecosystem health and improve water management for beneficial uses of the Bay-Delta system. The Program will complete the ecosystem restoration strategic plan; develop local implementation strategies for the restoration effort; refine conceptual ecosystem models, indicators of ecological health, and quantifiable objectives; and develop and implement the Ecosystem Restoration Science program to ensure that the scientific underpinnings of the ERP are demonstratable and supportable.

**Second and Third Quarter Accomplishments:**

Staff completed the revised draft programmatic ERP plan, which was released as an appendix to the Revised Draft Programmatic EIS/EIR. Six scientific panels have been convened to review several ecosystem restoration topics to assist in developing long-term strategies for ecosystem restoration implementation. These topics include fluvial geomorphology/riparian, tidal water, salmonids, Delta native fishes, environmental water account and open water. The Restoration Coordination Program completed a solicitation for ecosystem restoration projects and programs on April 16, 1999, and \$18.7 million is

available for funding ecosystem restoration projects in 1999; 226 proposals for \$264 million were submitted. The CALFED Integration Panel recommended funding 34 proposals. The Ecosystem Roundtable, BDAC, and CALFED Policy Group recommended funding 33 of the 34 proposals, and 21 of the 33 proposals have been identified for funding with the 1999 Bay-Delta Act appropriation. A letter is being submitted to the Assistant Secretary for Water and Science for approval. Planning and priority setting for requested FY2000 funds has begun.

**Miscellaneous Expenses/Administration:**

|   |                    |
|---|--------------------|
| <b>CALFED Recommended level of funding:</b>   | <b>\$9,468,990</b> |
| <b>Funds Obligated Through June 30, 1999:</b> | <b>\$573,222</b>   |
| <b>Funds Expended Through June 30, 1999:</b>  | <b>\$384,791</b>   |

1) **Program Title:** Restoration Reserve

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$7,068,990 |
| Funds Obligated Through June 30, 1999: | \$0         |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided to:** Bureau of Reclamation

**Project Description:** The cost share agreement between the State of California and the United States related to ecosystem restoration under Proposition 204 and the Bay-Delta Act, calls for setting aside up to 5 percent of the available funds in a Restoration Reserve Fund for emergency and single-time expenditures. Funds will be allocated to the Bureau of Reclamation and disbursed as determined by the Policy Group.

**Second and Third Quarter Accomplishments:**

No utilization of Restoration Reserve funds was requested during this quarter.

2) **Program Title:** Technical Review and Quality Control Program

|  |             |
|--|-------------|
| CALFED Recommended level of funding:   | \$1,600,000 |
| Funds Obligated Through June 30, 1999: | \$40,000    |
| Funds Expended Through June 30, 1999:  | \$0         |

**Funding provided through:** Bureau of Reclamation to various Federal agencies

**Project Description:** Each Federal agency is required to monitor the schedule and budget of the activities it undertakes with this appropriation. Therefore, a quality control program was instituted to monitor work products to ensure that project deliverables were

satisfactory. This program provides the resources needed to technically review project work products.

**Second and Third Quarter Accomplishments:**

Funds from this program have been allocated to support the management of three Bay-Delta Act programs. The programs supported and the amount allotted are as follows:

1) Floodplain Restoration/Habitat Restoration on Existing Conservation Lands Program - U.S. Fish and Wildlife Service (\$862,000), 2) Watershed Restoration Planning Program - U.S. Environmental Protection Agency (\$145,000), and 3) Bay Delta Education Program - U.S. Bureau of Reclamation for CALFED program staff (\$40,000).

The U.S. Fish and Wildlife Service completed cooperative agreements for projects approved by CALFED as a result of the May 1998 Proposal Solicitation Package. Progress reports on these projects are reported separately. Additional efforts included the coordination of these CALFED projects with other activities/projects being implemented through CVPIA or other funding sources.

The U.S. Environmental Protection Agency contracted with the National Fish and Wildlife Foundation to provide project administration on 14 projects approved by CALFED for funding. Eleven of these projects have been contracted to recipient organizations. Along with the agreements, the Foundation continued negotiating work plans, budgets, and task orders for pending agreements, while administering the 11 agreements already executed.

The Bay-Delta Education Program coordinator has facilitated work on the 1999/2000 education proposal solicitation, coordinated the funded 1998/1999 education programs, and facilitated the overall operation of the CALFED Bay Delta education program.

3) **Program Title:** Administrative Support Program

|  |           |
|--|-----------|
| CALFED Recommended level of funding:   | \$800,000 |
| Funds Obligated Through June 30, 1999: | \$533,222 |
| Funds Expended Through June 30, 1999:  | \$384,791 |

**Funding provided to:** Bureau of Reclamation

**Project Description:** Funding is requested for support provided by the Bureau of Reclamation in coordinating funding activities with other Federal CALFED agencies from the Bay-Delta Ecosystem Restoration Appropriation.

**Second and Third Quarter Accomplishments:**

Funding provided from January 1, 1999, through June 30, 1999, was utilized by budgeting, coordinating, and contracting staff to facilitate Bay-Delta Act objectives through the CALFED Bay-Delta Program. In performing this function, the Bureau of Reclamation staff worked with project/program applicants, sponsors, and contractors to complete



negotiations on the Battle Creek Salmon and Steelhead Restoration Project funded at \$28 million and award 41 contracts for \$20,276,730. Currently, the Bureau of Reclamation is working on negotiations for 16 additional agreements totaling \$26.2 million.

**TOTAL FOR ALL CATEGORIES:**

|   |                      |
|---|----------------------|
| <b>CALFED recommended level of funding:</b>         | <b>\$149,829,000</b> |
| <b>Total funds obligated through June 30, 1999:</b> | <b>\$72,421,945</b>  |
| <b>Total funds expended through June 30, 1999:</b>  | <b>\$12,638,611</b>  |

## PROJECT SUMMARY FOR CALIFORNIA BAY-DELTA ECOSYSTEM RESTORATION APPROPRIATION

(Combined Second and Third Quarter of FY 1999)

Refer to the Attached Individual Project Progress Reports for Project Specifics

| Category/Proposal/Agency   | Total<br>Approved by<br>the Secretary | Obligated<br>from<br>FY 1998<br>funding | Obligated<br>from<br>FY 1999<br>funding | Total<br>Obligated        | Total<br>Expended       |
|--|---------------------------------------|---|---|---------------------------|-------------------------|
| <b>Fish Screen Improvements</b>  | <b><u>\$2,539,000</u></b>             | <b><u>\$1,639,000</u></b>               | <b><u>\$900,000</u></b>                 | <b><u>\$2,539,000</u></b> | <b><u>\$138,392</u></b> |
| 9) Woodbridge Fish Screen and Passage<br>Bureau of Reclamation                             | 1,575,000                             | 1,575,000                               |   | 1,575,000                 | 124,581                 |
| 10) Small Diversion Fish Screens Program<br>Natural Resources Conservation<br>Service      | 900,000                               |   | 900,000                                 | 900,000                   |                         |
| 11) Richter Brothers Fish Screen<br>Bureau of Reclamation                                  | 49,000                                | 49,000                                  |   | 49,000                    |                         |
| 12) Boeger Family Farm Fish Screen<br>Bureau of Reclamation                                | 15,000                                | 15,000                                  |   | 15,000                    | 13,811                  |
| <b>Fish Passage Improvements</b>   | <b><u>\$42,353,000</u></b>            | <b><u>\$2,420,970</u></b>               | <b><u>\$1,581,651</u></b>               | <b><u>\$4,002,621</u></b> | <b><u>\$654,795</u></b> |
| 1. Fish Passage Program<br>U.S. Bureau of Reclamation                                      | 8,000,000                             | 2,095,970                               | 1,385,347                               | 3,481,317                 | 136,491                 |
| A) Proposals under Solicitation <sup>2</sup>   | 5,912,000                             | 7,970                                   | 1,385,347                               | 1,393,317                 | 125,803                 |
| Anadromous Fish Passage at Clough<br>Dam on Mill Creek                                     | 1,280,000                             |   |   | 0                         |                         |
| Steelhead and Chinook Salmon Fish<br>Passage Barrier Remediation on the<br>Guadalupe River | 178,200                               |   |   | 0                         |                         |
| Boeger Family Farm Fish Screen,<br>Phase III: Construction                                 | 139,500                               |   |   | 0                         |                         |
| Hastings Tract Fish Screen, Phase<br>II: Construction                                      | 271,250                               |   |   | 0                         |                         |
| City of Sacramento Fish Screen<br>Replacement Project, Phase II                            | 654,500                               |   |   | 0                         |                         |
| American Basin Fish Screen and<br>Habitat Improvement Project                              | 200,000                               |   |   | 0                         |                         |
| 1) Fish Passage Improvement Project<br>at the Red Bluff Diversion Dam                      | 340,600                               |   | 340,600                                 | 340,600                   |                         |

<sup>2</sup> Individual projects listed are pending contract award and are subject to change or deletion based on the contract negotiations/award process. These individual contracts were recommended by CALFED program staff as part of the approved program.

APPENDIX A

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|--|---------------------------------------|---|---|--------------------------|-------------------------|
| 2) Modifications of Existing Fish Ladders at Granlee Dam and the Retrofit of Three Summer Dams with Low-Flow Passage Structures<br>(Bureau of Reclamation) | 188,255                               |   | 188,255                                 | 188,255                  |                         |
| 3) Anderson-Cottonwood Irrigation District Fish Passage and Fish Screen Improvement, Phase II  | 860,000                               |   | 860,000                                 | 860,000                  | 117,833                 |
| Remaining Amount to be Included in the February 1999 CALFED Public Solicitation Process  | 1,799,695                             |   |   | 0                        |                         |
| B) Stanislaus River Channel Restoration at Williams Site<br>(CA Depart of Fish & Game)   | 1,038,000                             | 1,038,000                               |   | 1,038,000                |                         |
| C) Tuolumne River Setback Levees<br>(Turlock Irrigation District)  | 655,000                               | 655,000                                 |   | 655,000                  |                         |
| D) Fish Passage Project at Battle Creek<br>(CA Depart of Water Resources)  | 395,000                               | 395,000                                 |   | 395,000                  | 10,688                  |
| 2) Battle Creek Salmon and Steelhead Restoration Project<br>Bureau of Reclamation  | 28,000,000                            |   | 196,304                                 | 196,304                  | 193,304                 |
| 3) Anderson-Cottonwood Irrigation District (ACID) Fish Passage Project<br>Bureau of Reclamation  | 325,000                               | 325,000                                 |   | 325,000                  | 325,000                 |
| 5) Anderson-Cottonwood Irrigation District (ACID) Fish Passage Improvement Project, Phase III<br>Bureau of Reclamation                                     | 5,253,000                             |   |   | 0                        |                         |
| 6) Lower Butte Creek Project - Phase II<br>Bureau of Reclamation   | 775,000                               |   |   | 0                        |                         |
| <b>Habitat Restoration in Floodplains and Marshes</b>  | <b><u>41,652,000</u></b>              | <b><u>32,842,000</u></b>                | <b><u>(403)</u></b>                     | <b><u>32,841,597</u></b> | <b><u>8,189,923</u></b> |
| 1) Floodplain Restoration/Habitat Restoration on Existing Conservation Lands Program<br>U.S. Fish and Wildlife Service                                     | 16,700,000                            | 14,000,000                              | 0                                       | 14,000,000               | 37,500                  |

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|--|---------------------------------------|---|---|--------------------|-------------------|
| A) Proposals under Solicitation (PSP) <sup>3</sup>   | 16,545,000                            | 13,845,000                              |   | 13,845,000         | 37,500            |
| Projects Under Solicitation  | 3,006,000                             |   |   |                    |                   |
| 1) Grayson River Ranch Perpetual Easement and Restoration  | 732,000                               |   |   | 0                  |                   |
| 2) Rhode Island Floodplain Management and Habitat Restoration  | 25,000                                |   |   | 0                  |                   |
| 3) Stone Lakes National Wildlife Refuge Land Acquisitions  | 1,900,000                             |   |   | 0                  |                   |
| 4) Lower Clear Creek Floodway Restoration Project  | 3,559,596                             |   |   | 0                  |                   |
| 5) Fern-Headreach Tidal Perennial Aquatic and Shaded Riverine Aquatic Habitat Conservation Project     | 425,000                               |   |   | 0                  |                   |
| 6) Benicia Waterfront Marsh Restoration  | 59,000                                |   |   | 0                  |                   |
| 7) Lower San Joaquin River Floodplain Protection and Restoration Project                               | 1,100,000                             |   |   | 0                  |                   |
| 8) Biological Restoration and Monitoring in the Suisun Marsh / North San Francisco Bay Ecological Zone | 772,667                               |   |   | 0                  |                   |
| 9) South Napa River Tidal Slough and Floodplain Restoration Project                                    | 1,455,000                             |   |   | 0                  |                   |
| 10) Butte Creek Riparian Restoration Demonstration   | 76,348                                |   |   | 0                  |                   |
| 11) Hill Slough West Habitat Demonstration Project   | 200,000                               |   |   | 0                  |                   |
| 12) South Napa River Wetlands Acquisition and Restoration Program                                      | 431,000                               |   |   | 0                  |                   |

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|---|--|---|---|----------------------------|---------------------------|
| 13) Petaluma Marsh Expansion<br>Project - Marin County  | 352,135  |   |   | 0                          |                           |
| 14) Merced River Salmon Habitat<br>Enhancement, Phase III   | 2,433,759                                      |   |   | 0                          |                           |
| Remaining Amount to be Allocated<br>by the USFWS  | 17,495   |   |   | 0                          |                           |
| B) Butte Creek Acquisition<br>U.S. Fish and Wildlife Service  | 125,000  | 125,000   |   | 125,000                    |                           |
| C) Lower Mill Creek Riparian<br>Restoration<br>U.S. Fish and Wildlife Service   | 30,000   | 30,000  |   | 30,000                     |                           |
| 2) San Joaquin Floodplain Acquisition and<br>Riparian Restoration<br>U.S. Fish and Wildlife Service                             | 10,647,000                                     | 10,647,000  |   | 10,647,000                 | 1,717,274                 |
| 3) Bear Creek Floodplain Restoration<br>Demonstration Project<br>U.S. Fish and Wildlife Service                                 | 334,000  | 334,000   |   | 334,000                    | 331,408                   |
| 4) McCormick-Williamson Tract<br>Acquisition<br>U.S. Fish and Wildlife Service  | 5,250,000                                      |   |   | 0                          |                           |
| 5) McCormick-Williamson Tract's<br>Wildlife-Friendly Levee Improvement<br>and Farming Program<br>U.S. Fish and Wildlife Service | 860,000  |   |   | 0                          |                           |
| 6) Napa River Wetlands Acquisition<br>Bureau of Reclamation   | 1,000,000                                      | 1,000,000   |   | 1,000,000                  | 910,000                   |
| 7) Cache Slough Shaded Riverine Aquatic<br>Habitat Enhancement<br>Bureau of Reclamation   | 85,000   | 85,000  |   | 85,000                     |                           |
| 8) Cosumnes River Floodplain Acquisition<br>(The Nature Conservancy)  | 3,500,000                                      | 3,500,000   |   | 3,500,000                  | 3,500,000                 |
| 9) Regional Wetlands Goals Project<br>U.S. Environmental Protection Agency  | 76,000   | 76,000  |   | 76,000                     |                           |
| 10) Habitat Restoration/Flood Control<br>Bypasses Program<br>U.S. Army Corps of Engineers                                       | 1,200,000                                      | 1,200,000   |   | 1,200,000                  | 10,696                    |
| 11) Prospect Island Habitat Protection<br>Project<br>U.S. Army Corps of Engineers   | 2,000,000                                      | 2,000,000   | (403)   | 1,999,597                  | 1,683,045                 |

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|---|---------------------------------------|---|---|-------------------------|-----------------------|
| <b>River Channel Changes</b>  | <b><u>14,884,010</u></b>              | <b><u>9,624,010</u></b>                 | <b><u>170,000</u></b>                   | <b><u>9,794,010</u></b> | <b><u>243,040</u></b> |
| 1) Merced River Salmon Habitat Enhancement, Phase I: Robinson/Gallo Project, Ratslaff Reach Site<br>Bureau of Reclamation | 1,633,000                             |   |   | 0                       |                       |
| 2) Preliminary Design and Engineering of the Lower Western Stone Restoration Site, Merced River<br>Bureau of Reclamation  | 130,000                               |   |   | 0                       |                       |
| 3) Tuolumne River Special Run Pool (SRP) 10 Restoration<br>Bureau of Reclamation  | 165,000                               |   |   | 0                       |                       |
| 4) Tuolumne River Mining Reach Restoration Project No. 2 - MJ Ruddy Segment<br>U.S. Fish and Wildlife Service             | 3,332,000                             |   |   | 0                       |                       |
| 5) Liberty Island Acquisition<br>U.S. Fish and Wildlife Service   | 8,577,000                             | 8,577,000                               | 170,000                                 | 8,747,000               | 240                   |
| 6) Sedimentation Movement, Availability, and Monitoring in the Delta<br>U.S. Geological Survey                            | 1,047,010                             | 1,047,010                               |   | 1,047,010               | 242,800               |
| <b>Improved Instream Flows</b>  | <b><u>14,500,000</u></b>              | <b><u>14,450,000</u></b>                | <b><u>(6,750,000)</u></b>               | <b><u>7,700,000</u></b> | <b><u>0</u></b>       |
| 1) Environmental Water Acquisition Program<br>Bureau of Reclamation   | 14,450,000                            | 14,450,000                              | (6,750,000)                             | 7,700,000               |                       |
| 2) Environmental Water Acquisition Study<br>Bureau of Reclamation   | 50,000                                |   |   | 0                       |                       |
| <b>Water Quality and Temperature Improvement</b>  | <b><u>8,803,000</u></b>               | <b><u>4,737,000</u></b>                 | <b><u>306,649</u></b>                   | <b><u>5,043,649</u></b> | <b><u>903,114</u></b> |
| 1) Evaluation of Selenium Sources, Levels, and Consequences in the Delta<br>U.S. Geological Survey                        | 1,589,000                             | 1,589,000                               |   | 1,589,000               | 268,168               |
| 2) Assessment of Organic Matter in the Habitat and Its Relationship to the Food Chain<br>U.S. Geological Survey           | 1,400,000                             | 1,400,000                               | 40,649                                  | 1,440,649               | 413,842               |
| 3) Bacterial Treatment of Selenium in the Panoche Drainage<br>Bureau of Reclamation                                       | 1,149,000                             | 1,149,000                               |   | 1,149,000               | 165,293               |
| 4) Sand and Salt Creek Watershed Project<br>Bureau of Reclamation   | 599,000                               | 599,000                                 |   | 599,000                 | 39,744                |

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|---|---------------------------------------|---|---|-------------------------|-----------------------|
| 5) Integrate Pest Management in Suisun Bay Program<br>Bureau of Reclamation   | 266,000                               |   | 266,000                                 | 266,000                 | 16,067                |
| 6) Assessment of Ecological and Human Impacts of Mercury in the Bay-Delta Watershed<br>Bureau of Reclamation                  | 3,800,000                             |   |   | 0                       |                       |
| <b>Introduced and Undesirable Species Control</b>   | <b><u>1,250,000</u></b>               | <b><u>1,250,000</u></b>                 | <b><u>0</u></b>                         | <b><u>1,250,000</u></b> | <b><u>0</u></b>       |
| 1) Exotic Species Control Program<br>U.S. Fish and Wildlife Service   | 1,250,000                             | 1,250,000                               |   | 1,250,000               |                       |
| <b>Improved Fish Management and Hatchery Operations</b>   | <b><u>625,000</u></b>                 | <b><u>625,000</u></b>                   | <b><u>0</u></b>                         | <b><u>625,000</u></b>   | <b><u>35,084</u></b>  |
| 1) Evaluation of Tagging Data<br>Bureau of Reclamation  | 625,000                               | 625,000                                 |   | 625,000                 | 35,084                |
| <b>Watershed Management</b>   | <b><u>4,198,000</u></b>               | <b><u>2,253,000</u></b>                 | <b><u>0</u></b>                         | <b><u>2,253,000</u></b> | <b><u>140,583</u></b> |
| 1) Butte Creek Watershed Restoration Implementation<br>U.S. Fish and Wildlife Service   | 294,000                               | 294,000                                 |   | 294,000                 | 19,223                |
| 2) Inventory of Forest Road Systems at Cat Creek Watershed<br>U.S. Forest Service   | 38,000                                | 38,000                                  |   | 38,000                  |                       |
| 3) Improvement/Sedimentation Stabilization on Deer, Mill, and Antelope Creeks (Lassen National Forest)<br>U.S. Forest Service | 371,000                               | 371,000                                 |   | 371,000                 | 121,360               |
| 4) Floodplain Easements - Lower Tuolumne and San Joaquin Rivers<br>Natural Resource Conservation Service                      | 1,545,000                             |   |   | 0                       | 0                     |
| 5) Watershed Restoration Planning and Implementation Program <sup>4</sup><br>U.S. Environmental Protection Agency             | 1,950,000                             | 1,550,000                               |   | 1,550,000               | 0                     |
| Battle Creek Watershed Stewardship  | 107,000                               |   |   | 0                       |                       |
| Cold Water Fisheries and Water Quality Element  | 147,000                               |   |   | 0                       |                       |

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|--|---------------------------------------|---|---|-------------------------|-------------------------|
| Lower Putah Creek Watershed<br>Stewardship Program   | 76,000                                |   |   | 0                       |                         |
| Watershed Restoration Strategy for<br>the Yolo Bypass  | 180,000                               |   |   | 0                       |                         |
| A) Local Watershed Stewardship:<br>Steelhead Trout Plan  | 38,000                                |   |   | 0                       |                         |
| B) Proposal to Develop Local<br>Watershed Stewardship Plan for the<br>Lower Mokelumne River        | 118,000                               |   |   | 0                       |                         |
| C) Alhambra Creek Watershed CRMP<br>Program  | 104,000                               |   |   | 0                       |                         |
| D) Cottonwood Creek Watershed<br>Group Formation   | 119,000                               |   |   | 0                       |                         |
| E) Merced River Corridor Restoration<br>Plan   | 220,000                               |   |   | 0                       |                         |
| F) Union School Slough Watershed<br>Improvement Program  | 304,000                               |   |   | 0                       |                         |
| G) Sulphur Creek Coordinated<br>Resource Management Planning<br>Group                              | 20,000                                |   |   | 0                       |                         |
| H) Petaluma River Watershed<br>Restoration Program   | 162,000                               |   |   | 0                       |                         |
| I) South Yuba River Coordinated<br>Watershed Management Plan                                       | 193,000                               |   |   | 0                       |                         |
| J) American River Integrated<br>Watershed Stewardship Program                                      | 162,000                               |   |   | 0                       |                         |
| <b>Monitoring, Permit Coordination,<br/>and Other Special Support Programs</b>                     | <b><u>9,556,000</u></b>               | <b><u>3,042,869</u></b>                 | <b><u>2,756,977</u></b>                 | <b><u>5,799,846</u></b> | <b><u>1,948,889</u></b> |
| 1) Integrated Phasing Strategy<br>CALFED Program Staff   | 2,947,000                             | 1,720,595                               | (147,151)                               | 1,573,444               | 1,292,967               |
| 2) Coordinated Permitting<br>CALFED Program Staff  | 482,000                               | 100,000                                 | 285,505                                 | 385,505                 | 53,303                  |
| 3) Development of a Watershed<br>Management Program<br>CALFED Program Staff                        | 394,000                               | 111,574                                 | 173,751                                 | 285,325                 | 138,697                 |
| 4) Comprehensive Monitoring<br>Assessments and Research Program<br>(CMARP)<br>CALFED Program Staff | 1,447,000                             | 1,110,700                               | 263,000                                 | 1,373,700               | 395,934                 |



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|---|---------------------------------------|---|---|-----------------------|-----------------------|
| 5) Bay-Delta Education Program <sup>5</sup><br>CALFED Program Staff                             | 420,000                               | 0                                       | 385,172                                 | 385,172               | 67,988                |
| A) Proposals In Contracting Process   |                                       |   |   |                       |                       |
| San Joaquin Valley's "Salmonids in<br>the Classroom" Program<br>Enhancement                     | 3,000                                 |   |   | 0                     |                       |
| Bay-Delta Education Program Funds<br>Available for Future Projects                              | 34,007                                |   | 2,179                                   | 2,179                 | 2,179                 |
| B) Traveling Film Festival/Heron<br>Booth/Video Archive   | 54,000                                |   | 54,000                                  | 54,000                | 43,902                |
| C) Environmental Agriculture<br>Conferences and Field Tours                                     | 28,000                                |   | 28,000                                  | 28,000                |                       |
| D) Sacramento River Headwaters to the<br>Ocean, Public Information and<br>Education             | 49,640                                |   | 49,640                                  | 49,640                | 21,907                |
| E) Discover the Flyway  | 49,000                                |   | 49,000                                  | 49,000                |                       |
| F) The Butte Creek Watershed<br>Educational Workshops and Field<br>Tours Series                 | 33,000                                |   | 33,000                                  | 33,000                |                       |
| G) Bay-Delta Environmental<br>Restoration Education Program                                     | 40,000                                |   | 40,000                                  | 40,000                |                       |
| H) Water Hyacinth Education Program   | 9,598                                 |   | 9,598                                   | 9,598                 |                       |
| I) Water Challenge 2010   | 64,500                                |   | 64,500                                  | 64,500                |                       |
| J) Increased Public Awareness of the<br>Riparian Habitat and Ecosystem of<br>the Tuolumne River | 55,255                                |   | 55,255                                  | 55,255                |                       |
| 6) CALFED Special Support Programs<br>CALFED Program Staff                                      | 1,751,000                             |   | 1,176,700                               | 1,176,700             |                       |
| 7) Prospect Island Monitoring Project<br>U.S. Army Corps of Engineers                           | 915,000                               |   |   | 0                     |                       |
| 8) Ecosystem Restoration and Planning<br>CALFED Program Staff                                   | 1,200,000                             |   | 620,000                                 | 620,000               |                       |
| <b>Miscellaneous Expenses/<br/>Administration</b>   | <b><u>9,468,990</u></b>               | <b><u>172,925</u></b>                   | <b><u>400,297</u></b>                   | <b><u>573,222</u></b> | <b><u>384,791</u></b> |
| 1) Restoration Reserve<br>Bureau of Reclamation   | 7,068,990                             |   |   | 0                     |                       |

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|---|---------------------------------------|---|---|--------------------------|--------------------------|
| 2) Technical Review and Quality Control<br>Program<br>Bureau of Reclamation | 1,600,000                             |   | 40,000                                  | 40,000                   |                          |
| 3) Administrative Support Program<br>Bureau of Reclamation                  | 800,000                               | 172,925                                 | 360,297                                 | 533,222                  | 384,791                  |
| <b>Total Approved by Secretary</b>  | <b><u>149,829,000</u></b>             | <b><u>73,056,774</u></b>                | <b><u>(634,829)</u></b>                 | <b><u>72,421,945</u></b> | <b><u>12,638,611</u></b> |
| Balance Remaining for Other Programs/<br>Projects                           | 10,171,000                            |   |   |                          |                          |
| <b>Grand Total</b>  | <b><u>160,000,000</u></b>             |   |   |                          |                          |

## BAY DELTA ECOSYSTEM RESTORATION APPROPRIATION PROGRAM/PROJECT MAP INDEX

| Map<br>Locator | Program/Project   |
|----------------|---|
| 1              | Anderson-Cottonwood Irrigation District Fish Passage  |
| 2              | Assessment of Organic Matter in the Habitat and Its Relationship to the Food Chain  |
| 3              | Bacterial Treatment of Selenium in the Panoche Drainage   |
| 4              | Battle Creek Screens and Fish Passage   |
| 5              | Bear Creek Floodplain Restoration Demonstration Project   |
| 6              | Boeger Family Farm Screen   |
| 7              | Butte Creek Watershed Restoration Implementation  |
| 8              | Cache Slough Habitat Enhancement  |
| 9              | Cosumnes Floodplain Acquisition and Restoration   |
| 10             | Evaluation of Selenium Sources, Levels, and Consequences in the Delta<br>Fish Passage Program ( <i>Bay-Delta System-wide Program</i> )    |
| 1              | ACID Fish Passage and Fish Screen Improvement Project, Phase II   |
| 11             | American Basin Fish Screen and Habitat Improvement Project  |
| 12             | Anadromous Fish Passage at Clough Dam on Mill Creek   |
| 6              | Boeger Family Farms Fish Screen, Phase III: Construction  |
| 13             | City of Sacramento Fish Screen Replacement Project, Phase II  |
| 9              | Cosumnes River Salmonid Barrier Program   |
| 14             | Fish Passage Improvement Project at the Red Bluff Diversion Dam   |
| 57             | Modifications of Existing Fish Ladders at Granlee Diversion Dam and the Retrofit of<br>Three Summer Dams with Low-Flow Passage Structures |
| 15             | Hasting Tract Fish Screen, Phase II: Construction   |
| 16             | Steelhead and Chinook Salmon Fish Passage Barrier Remediation-Guadalupe River   |
| 41             | Stanislaus River Channel Restoration  |
| 42             | Tuolumne River Setback Levees   |
|                | Habitat Restoration/Flood Control Bypasses Program ( <i>Bay-Delta System-wide Program</i> )   |
| 17             | Benicia Waterfront Marsh Restoration  |
| 18             | Biological Restoration and Monitoring in the Suisun Marsh/North San Francisco Bay<br>Ecological Zone                                      |
| 7              | Butte Creek Acquisition   |
| 7              | Butte Creek Riparian Restoration Demonstration  |
| 9              | Cosumnes River Acquisition, Restoration, Planning and Demonstration   |
| 19             | Deer and Mill Creeks Acquisition and Enhancement  |
| 20             | Fern-Headreach Tidal Perennial Aquatic and Shaded River Aquatic Conservation Project  |
| 56             | Floodplain Easements - Lower Tuolumne and San Joaquin Rivers  |
| 21             | Floodplain Acquisition, Management, and Monitoring on the Sacramento River  |
| 22             | Grayson River Ranch Perpetual Easement and Restoration  |
| 23             | Hill Slough West Habitat Demonstration Project  |
| 24             | Lower Clear Creek Floodway Restoration Project  |
| 25             | Lower Mill Creek Riparian Restoration   |
| 26             | Lower San Joaquin River Floodplain Protection and Restoration Project   |
| 27             | Merced River Salmon Habitat Enhancement, Phase I and III  |
| 28             | Nelson Slough Wildlife Area Restoration Demonstration Project   |
| 29             | Petaluma Marsh Expansion Project - Marin County   |
| 30             | Rhode Island Floodplain Management and Habitat Restoration  |
| 31             | South Napa River Tidal Slough and Floodplain Restoration Project  |
| 31             | South Napa River Wetlands Acquisition and Restoration Program   |
| 32             | Stone Lakes National Wildlife Refuge Land Acquisitions  |
| 33             | Inventory of Forest Road Systems, Cat Creek Watershed   |
| 34             | Liberty Island Acquisition  |
| 7              | Lower Butte Creek - Phase II Fish Passage   |
| 55             | McCormack-Williamson Tract Acquisition  |
| 55             | McCormack-Williamson Tract's Wildlife - Friendly Levee Improvement and Farming Program  |

## APPENDIX B

|    |  |
|----|--|
| 58 | Preliminary Design and Engineering of the Lower Western Stone Restoration Site, Merced River |
| 35 | Prospect Island Habitat Protection and Monitoring Project                                    |
| 36 | Richter Brothers Screen  |
| 37 | San Joaquin Floodplain Acquisition and Riparian Restoration                                  |
| 38 | San Francisco Bay Area Wetlands Ecosystem Goals Project                                      |
| 39 | Sand and Salt Creek Watershed Project  |
| 40 | Sedimentation Movement and Availability, and Monitoring in the Delta                         |
| 41 | Stanislaus River Channel Restoration at the Williams Site                                    |
| 42 | Tuolumne River Channel Restoration (Special Run Pool 9)                                      |
| 42 | Tuolumne River Mining Reach Restoration Project No. 2 - MJ Ruddy Segment                     |
| 19 | Watershed Improvement/Sediment Stabilization on Deer, Mill and Antelope Creeks               |
|    | Watershed Planning Program   |
| 43 | Alhambra Creek Watershed CRMP Program  |
| 44 | American River Integrated Watershed Stewardship Strategy                                     |
| 4  | Battle Creek Watershed Stewardship   |
| 45 | Cold Water Fisheries and Water Quality Element   |
| 46 | Cottonwood Creek Watershed Group Formation   |
| 47 | Local Watershed Stewardship: Steelhead Trout Plan  |
| 48 | Lower Putah Creek Watershed Stewardship Program  |
| 27 | Merced River Corridor Restoration Plan   |
| 29 | Petaluma River Watershed Restoration Program   |
| 49 | Proposal to Develop Local Watershed Stewardship Plan for the Lower Mokelumne River           |
| 50 | South Yuba River Coordinated Watershed Management Plan                                       |
| 51 | Sulphur Creek Coordinated Resource Management Planning Group                                 |
| 52 | Union School Slough Watershed Improvement Program  |
| 53 | Watershed Restoration Strategy for the Yolo Bypass   |
| 54 | Woodbridge Fish Screen and Passage   |

### Bay-Delta System-wide Programs/Projects:

Assessment of Ecological and Human Health Impacts of Mercury in the Bay-Delta Watershed  
Bay-Delta Education Program  
Comprehensive Monitoring and Research Program (CMARP)  
Coordinated Permitting  
Development of a Watershed Management Program  
Environmental Water Acquisition Program  
Evaluation of Selenium Sources, Levels, and Consequences in the Delta  
Evaluation of Tagging Data  
Exotic species Control Program  
Floodplain Restoration/Habitat Restoration on Existing Conservation Lands Program  
Integrated Pest Management in Suisun Bay Program  
Integrated Phasing Strategy  
Regional Wetlands Goals Project  
Sedimentation Movement and Availability and Monitoring in the Delta  
Small Diversion Fish Screens Program

*insert figure*

*insert CALFED database table*

## OVERALL CALFED PROCESS PROGRAM/PROJECT MAP INDEX

### 1997 Restoration Projects

Map

| <u>Locator</u> | <u>Program/Project</u>   |
|----------------|--|
| 1              | IPM Partnership to Improve Water Quality in Suisun Bay and Local Creeks        |
| 2              | RD 108 Screen  |
| 3              | Princeton Fish Screen  |
| 4              | Wilson Ranch Screen  |
| 5              | Assessment & Implementation of Urban Use Reduction of Diazinon & Chlopyrifos   |
| 6              | Watershed Management Planning "B" National Process Restoration                 |
| 7              | Sacramento River Floodplain Acquisition "B" National Process Restoration       |
| 8              | Sacramento River Floodplain Acquisition "B" Active Riparian Forest Restoration |
| 9              | Sacramento River Meander Restoration Project                                   |
| 10             | Watershed Improvements/Sediment Stabilization (Deer, Mill, Antelope Creeks)    |
| 11             | Watershed Restoration Planning (American River)                                |
| 12             | Battle Creek Screens and Fish Passage  |
| 13             | Watershed Plan (Big Chico Creek)   |
| 14             | Gorrill Dam Screen and Ladder  |
| 15             | Adams Dam Screen and Passage   |
| 16             | Butte Creek Acquisition and Riparian Restoration                               |
| 17             | Saeltzer Dam Fish Passage  |
| 18             | Cottonwood Creek Channel Restoration   |
| 19             | Watershed Plan Implementation (Deer Creek)                                     |
| 20             | Lower Mill Creek Riparian Restoration  |
| 21             | Hastings Tract Screen Feasibility Study  |
| 22             | Monitoring of Delta Contaminants   |
| 23             | Effects of Wetlands Restoration on Methyl Mercury Levels                       |
| 24             | Sedimentation Movement & Availability & Monitoring in the Delta                |
| 25             | Contaminant Effects on Smelt   |
| 26             | Jepson Prairie Restoration   |
| 27             | In-Channel Island Demonstration Project  |
| 28             | Liberty Island\ Acquisition  |
| 29             | Franks Tract Restoration   |
| 30             | Tyler Island Levee Protection & Habitat Restoration Pilot Project              |
| 31             | Cosumnes Floodplain Acquisition & Restoration                                  |
| 32             | Mokelumne River Setback Levee & Habitat Restoration                            |
| 33             | Bay Point Shoreline Restoration Plan   |
| 34             | Martinez Regional Shoreline Restoration  |
| 35             | Preventing Exotic Introductions from Ballast Water                             |
| 36             | Cullinan Ranch Restoration   |

**1997 Restoration Projects (continued)**

Map

Locator Program/Project

|    |  |
|----|--|
| 37 | Today Creek Restoration  |
| 38 | Banta-Carbona Fish Screen  |
| 39 | Biologically Integrated Orchard Systems (BIOS) “B” Pesticide and Fertilizer Reductions |
| 40 | San Joaquin River Real-Time Water Quality Management Program                           |
| 41 | Developing a Genetic Baseline for San Joaquin Salmon                                   |
| 42 | Acquisition and Restoration of Refuge Lands  |
| 43 | Bear Creek Floodplain Restoration Demonstration Project                                |
| 44 | Stanislaus River Channel Restoration   |
| 45 | Knights Ferry Gravel Replenishment   |
| 46 | Gravel Replacement (Basso Bridge)  |
| 47 | Tuolumne River Channel Restoration   |
| 48 | Tuolumne River Setback Levees & Channel Restoration                                    |
| 49 | Evaluation of Alternative Pesticide Use Reduction Practices                            |
| 50 | Assessment of Organic Matter in the Habitat and Its Relationship to the Food Chain     |
| 51 | Richter Brothers Screen  |
| 52 | Boeger Family Farm Screen  |
| 53 | ACID Fish Passage  |
| 54 | Butte Creek Watershed  |
| 55 | Sand and Salt Creek Watershed Project  |
| 56 | Twitchell Island Restoration   |
| 57 | Evaluation of Selenium Sources, Levels and Consequences in the Delta                   |
| 58 | Culture of Delta Smelt   |
| 59 | Cache Slough Habitat Enhancement   |
| 60 | Inventory of Forest Road Systems, Cat Creek Watershed                                  |
| 61 | Woodbridge Fish Screen and Passage   |
| 62 | Selected Fish Screens, Suisun Marsh  |
| 63 | Bacterial Treatment of Selenium in the Panoche Drainage                                |
| 64 | Merced River Ranch Acquisition and Restoration   |
| 65 | Basso Bridge Land Acquisition  |
| 66 | Evaluation of Tagging Data   |
| 67 | San Francisco Bay Area Wetlands Ecosystem Goals Project                                |
| 68 | Hamilton Wetlands Restoration Project  |
| 69 | Napa River Watershed Stewardship   |
| 70 | Sonoma Creek Watershed Restoration Project   |
| 71 | South Napa River Wetlands Acquisition & Restoration Program                            |



**1998 Restoration Projects**

Map

Locator Program/Project

|    |  |
|----|--|
| 1  | Adult Fall-Run Chinook Salmon Movement in the Lower San Joaquin River and South Delta      |
| 2  | Reclamation District 2035 Fish Screen  |
| 3  | Butte Creek Salmon/Steelhead Passage   |
| 4  | Restoring Salmon/Steelhead Passage on the Yuba River                                       |
| 5  | Expanding California Salmon Habitat Through Non-governmental/Non-regulatory Mechanisms     |
| 6  | Anadromous Fish Passage at Clough Dam on Mill Creek  |
| 7  | Fish Passage Improvement Project at the Red Bluff Diversion Dam                            |
| 8  | Steelhead and Chinook Salmon Fish Passage Barrier Remediation on the Guadalupe River       |
| 9  | ACID Fish Passage and Fish Screen Improvement Project, Phase II                            |
| 10 | Cosumnes River Salmonid Barrier Program  |
| 11 | Boeger Family Farms Fish Screen Phase III: Construction                                    |
| 12 | Hastings Tract Fish Screen Phase II: Construction  |
| 13 | City of Sacramento Fish Screen Replacement Project Phase II                                |
| 14 | American Basin Fish Screen and Habitat Improvement Project                                 |
| 15 | Grayson River Ranch Perpetual Easement and Restoration                                     |
| 16 | Hill Slough West Habitat Demonstration Project   |
| 17 | Rhode Island Floodplain Management and Habitat Restoration                                 |
| 18 | Nelson Slough Wildlife Area Restoration Demonstration Project                              |
| 19 | Phase 3 - Merced River Salmon Habitat Enhancement  |
| 20 | Stone Lakes NWR Land Acquisitions  |
| 21 | Petaluma Marsh Expansion Project - Marin County  |
| 22 | South Napa River Wetlands Acquisition and Restoration Program                              |
| 23 | Lower Clear Creek Floodway Restoration Project   |
| 24 | Fern-Headreach Tidal Perennial Aquatic and Shaded River Aquatic Conservation Project       |
| 25 | Benicia Waterfront Marsh Restoration   |
| 26 | Floodplain Acquisition, Management, and Monitoring on the Sacramento River                 |
| 27 | Cosumnes River Acquisition, Restoration Planning and Demonstration                         |
| 28 | Deer and Mill Creeks Acquisition and Enhancement   |
| 29 | Lower San Joaquin River Floodplain Protection and Restoration Project                      |
| 30 | Biological Restoration and Monitoring in the Suisun Marsh/ North San Francisco Bay         |
| 31 | South Napa River Tidal Slough and Floodplain Restoration Project                           |
| 32 | Butte Creek Riparian Restoration Demonstration   |
| 33 | Genetic Comparison of Stocks Considered for Re-establishing Steelhead in Clear Creek       |
| 34 | Spawning Areas of Green Sturgeon in the Upper Sacramento River                             |
| 35 | Monitoring Adult and Juvenile Spring and Winter Chinook Salmon and Steelhead, Battle Creek |
| 36 | Life History and Stock Composition of Steelhead Trout                                      |
| 37 | Biological Assessment of Green Sturgeon in the Sacramento-San Joaquin Watershed            |
| 38 | Petaluma River Watershed Restoration Program   |
| 39 | Cottonwood Creek Watershed Group Formation   |
| 40 | Battle Creek Watershed Stewardship   |
| 41 | Local Watershed Stewardship: Steelhead Trout Plan  |

**1998 Restoration Projects (continued)**

Map

Locator Program/Project

|    |  |
|----|--|
| 42 | Cold Water Fisheries and Water Quality Element                                     |
| 43 | Merced River Corridor Restoration Plan   |
| 44 | South Yuba River Coordinated Watershed Management Plan                             |
| 45 | Watershed Restoration Strategy for the Yolo Bypass                                 |
| 46 | Proposal to Develop Local Watershed Stewardship Plan for the Lower Mokelumne River |
| 47 | Union School Slough Watershed Improvement Program                                  |
| 48 | American River Integrated Watershed Stewardship Strategy                           |
| 49 | Sulphur Creek Coordinated Resource Management Planning Group                       |
| 50 | Lower Putah Creek Watershed Stewardship Program                                    |
| 51 | Alhambra Creek Watershed CRMP Program  |
| 52 | San Joaquin Valley "Salmonids in the Classroom" Program Enhancement                |
| 53 | Traveling Film Festival/Heron Booth/Video Archive                                  |
| 54 | Environmental Agriculture Conferences and Field Tours                              |
| 55 | Sacramento River, Headwaters to the Ocean, Public Information and Education        |
| 56 | Discover the Flyway  |
| 57 | The Butte Creek Watershed Educational Workshops and Field Tours Series             |
| 58 | Bay-Delta Environmental Restoration Education Program                              |
| 59 | The Virtual Science Center and Hands-on Learning Programs                          |
| 60 | Water Hyacinth Education Program   |
| 61 | Water Challenge 2010   |
| 62 | Tuolumne River Natural Resources Program   |
| 63 | Developing a Methodology to Accurately Simulate the Entrainment of Fish            |
| 64 | Pelger Mutual Water Company: Small Fish Screen Evaluation                          |
| 65 | Water Quality Criteria for Chlopyrifos and Diazinon                                |
| 66 | Fathead Minnow Toxicity  |
| 67 | Algal Toxicity   |
| 68 | Sediment Water Quality   |
| 69 | Butte Creek Acquisition and Riparian Restoration                                   |
| 70 | Lower Mill Creek Riparian Restoration  |
| 71 | Tuolumne River Setback Levees and Channel Restoration                              |

**1999 Restoration Projects**

Map

Locator Program/Project

|   |  |
|---|--|
| 1 | Battle Creek Salmon and Steelhead Restoration Project                                    |
| 2 | Lower Butte Creek Project: Phase II - Preliminary Engineering and Environmental Analysis |
| 3 | ACID Fish Passage Improvement Project, Phase II  |
| 4 | Prospect Island Monitoring Project   |

**1999 Restoration Projects (continued)**

Map

Locator Program/Project

- |    |   |
|----|---|
| 5  | Lower Western Stone Project   |
| 6  | Phase I: Robinson/Gallo Project - Ratzlaff Reach Site                                   |
| 7  | Special Run Pool 10 Restoration   |
| 8  | Mining Reach Restoration Project No. 2 - MJ Ruddy Segment                               |
| 9  | Cost Share with NRCS Easements, 4 on the Tuolumne and 5 on the San Joaquin              |
| 10 | East Delta Corridor Habitat Study - Cosumnes River Feasibility Study                    |
| 11 | East Delta Corridor Habitat Study - Mokelumne River Feasibility Study                   |
| 12 | McCormack-Williamson Tract's Wildlife-Friendly Levee Management Program                 |
| 13 | Assessment of Ecological and Human Health Impacts of Mercury in the Bay-Delta Watershed |

*insert table*